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INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume VIII - User Interface Subsystem
Part 35 - Application Interface Unit Test Plan

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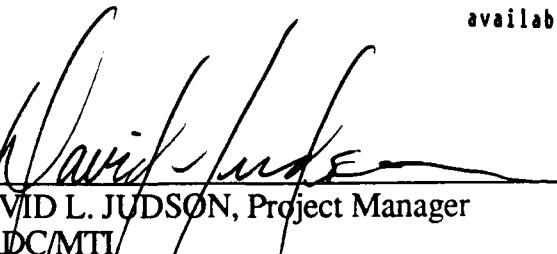
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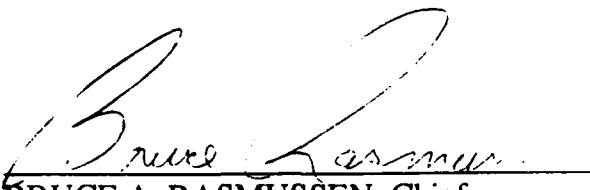
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FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

<u>SUBCONTRACTOR</u>	<u>ROLE</u>
Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
ONTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpact Corporation	Responsible for Communication development.
Structural Dynamics Research Corporation	Responsible for User Interfaces, Virtual Terminal Interface, and Network Transaction Manager design, development, implementation, and support.
Arizona State University	Responsible for test bed operations and support.

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DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
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SECTION 1

GENERAL

1.1 Purpose

This unit test plan establishes the methodology and procedures used to adequately test the capabilities of the computer program identified as the Application Interface known in this document as the AI. The AI is one configuration item of the Integrated Information Support System (IIS) User Interface (UI). It consists of Application Interface callable routines.

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- [6] Structural Dynamics Research Corporation, Report Writer Unit Test Plan, UTP620344501, 31 May 1988.
- [7] Structural Dynamics Research Corporation, Rapid Application Generator Unit Test Plan, UTP620344502, 31 May 1988.
- [8] Structural Dynamics Research Corporation, Text Editor Unit Test Plan, UTP620344600, 31 May 1988.
- [9] Structural Dynamics Research Corporation, Application Interface Unit Test Plan, UTP620344700, 31 May 1988.
- [10] Structural Dynamics Research Corporation, User Interface Services Unit Test Plan, UTP620344100, 31 May 1988.
- [11] Structural Dynamics Research Corporation, Form Processor Unit Test Plan, UTP620344200, 31 May 1988.

11.3 Terms and Abbreviations

Application Interface: (AI), subset of the IISS User Interface that consists of the callable routines that are linked with applications that use the Form Processor or Virtual Terminal. The AI enables applications to be hosted on computers other than the host of the User Interface.

Application Process: (AP), a cohesive unit of software that can be initiated as a unit to perform some function or functions.

Communication Services: allows on host interprocess communication and inter-host communication between the various Test Bed subsystems.

Communication Subsystem: (COMM), IISS subsystem that provides communication services to the Test Bed and subsystems.

Computer Program Configuration Item: (CPCI), an aggregation of computer programs or any of their discrete portions, which satisfies an end-use function.

Field: two dimensional space on a terminal screen.

Field Pointer: indicates the ITEM which contains the current cursor position.

Form: structured view which may be imposed on windows or other forms. A form is composed of fields. These fields may be defined as forms, items, and windows.

Form Definition: (FD), forms definition language after compilation. It is read at runtime by the Form Processor.

Forms Definition Language: (FDL), the language in which electronic forms are defined.

Form Hierarchy: a graphic representation of the way in which forms, items and windows are related to their parent form.

Form Processor: (FP), subset of the IISS User Interface that consists of a set of callable execution time routines available to an application program for form processing.

IISS Function Screen: the first screen that is displayed after logon. It allows the user to specify the function he wants to access and the device type and device name on which he is working.

Integrated Information Support System: (IISS), a computing environment used to investigate, demonstrate, test the concepts and produce application for information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous data bases supported by heterogeneous computers interconnected via a Local Area Network.

Message: descriptive text which may be returned in the standard message line on the terminal screen. They are used to warn of errors or provide other user information.

Message Line: a line on the terminal screen that is used to display messages.

Network Transaction Manager: (NTM), IISS subsystem that performs the coordination, communication and housekeeping functions required to integrate the Application Processes and System Services resident on the various hosts into a cohesive system.

Qualified Name: the name of a form, item or window preceded by the hierarchy path so that it is uniquely identified.

User Data: data which is either input by the user or output by the application programs to items.

User Interface: (UI), IISS subsystem that controls the user's terminal and interfaces with the rest of the system. The UI consists of two major subsystems: the User Interface Development System (UIDS) and the User Interface Management System (UIMS).

User Interface Management System: (UIMS), the runtime UI. It consists of the Form Processor, Virtual Terminal, Application Interface, the User Interface Services and the Text Editor.

User Interface/Virtual Terminal Interface: (UI/VTI), another name for the User Interface.

Virtual Terminal: (VT), subset of the IISS User Interface that performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by the UI software which constitutes the virtual terminal definition. Specific terminals are then mapped against the virtual terminal software by specific software modules written for each type of real terminal supported.

Window: dynamic area of a terminal screen on which predefined forms may be placed at run time.

SECTION 2

DEVELOPMENT ACTIVITY

2.1 Statement of Pretest Activity

During system development, the computer programs were tested progressively. Functionality was incrementally tested, and as bugs were discovered by this testing, the software was corrected.

Each Application Interface callable routine was tested individually through Application Interface development. A test program, ARTEST, was developed as an easy means of testing changes to the Application Interface. This test program allows a developer to type in commands that are translated into the appropriate Application Interface calls. With this test program all Application Interface callable routines may be executed.

All pretesting activity was conducted by the individual program developer in a manual mode. The developer would manually enter data onto the screen and observe the results. Any errors were noted by the developer, and corrections to the Application Interface software were then made after a testing session.

2.2 Pretest Activity Results

The pretest activity was very successful in the elimination of programming bugs so that at release time only a few bugs were found in the Application Interface. The development of the test program, ARTEST, has proved very beneficial since as new functionality was added to the Application Interface, ARTEST was also updated to test this functionality. ARTEST is the major test tool for the Unit Test Plan of the Application Interface.

SECTION 3

SYSTEM DESCRIPTION

3.1 System Description

The Application Interface consists of a set of callable execution time routines that allows an application program to send/receive formatted screens to/from various terminals and to perform terminal control functions independent of the terminal type. The Application Interface translates the application's call for form processing into a message which is then sent to the User Interface Monitor of the Form Processor.

The required input and the resulting output of these tests is documented in detail in Section 5.3. The general testing method is the entry of commands on the ARTEST form Command Line item and the translation of this command by the ARTEST program into a call to the appropriate Application Interface routine. Each Application Interface routine as found in the Application Interface Development Specification is to be exercised. The resulting output is observed on the ARTEST form.

The following keys are used to move within forms (using the VT100 terminal as an example): the <ENTER> key is used to activate all commands; the <TAB> key is used to move from field to field within the form; and the arrow keys are used to move within fields. In addition, ESC TAB is a reverse TAB. The keypad layouts for the various modes are shown Appendix A.

3.2 Testing Schedule

The execution of the Application Interface is dependent upon the NTM subsystem of the IISS. Testing of the Application Interface must be done only after the NTM has been successfully tested. In this unit test, the Application Interface is dependent on the Form Processor (FP) and on the Virtual Terminal (VT). In fact, all three Configuration Items are to be tested together.

3.3 First Location Testing

These tests of the Application Interface require the following:

Equipment: Air Force VAX, terminals supported by the Virtual Terminal as listed in the UI Terminal Operator's Guide.

Support Software: the Integrated Information Support System, the Oracle database management system, C run-time libraries.

Personnel: One integrator familiar with the IISS.

Training: The AI User manual has been previously provided with the current release.

Deliverables: The Application Interface component of the IISS UI/VTI.

Test Materials: This test may be run interactively by inputting the appropriate data and observing the output as outlined in this test plan. A script file has been created to run this unit test plan and save the resulting output.

Security considerations: None.

3.4 Subsequent Location Testing

The requirements as listed above need to be met; however, in subsequent testing it is advantageous to create a script file of the outlined tests and run this saving the output of the test for future comparisons.

SECTION 4
SPECIFICATIONS AND EVALUATIONS

4.1 Test Specification

This test uses the program ARTEST to test the following areas of functionality as specified in section 3.2 of the Application Interface Development Specification:

- o Form processing
- o User Profile Maintenance
- o Virtual Terminal Pass-through

The following sections list the AI routines that handle the particular area of functionality, where appropriate. The associated figures refer to the specific activities performed in section 5.3 to test each area.

4.1.1 Form Processing

Controlling the Form Processor:

INITFP - Figures 2a,b
TERMFPI - Figures 58a,b
SETDQN - Figures 32a, 32d-f
GETDQN - Figures 32b,c

Opening and Closing Forms:

OPNFRM - Figures 8a-d
CLSFRM - Figures 15a-c

Creating and Saving Forms:

CRTFRM - Figures 67a, 67c
SAVFRM - Figures 114a-c
REPFRM - Figures 66a,b
MAKFRM - Figures 86a,b

Adding and Removing Fields:

CRTFLD - Figures 62a,b
ADDFLD - Figures 60a-61b, 62c, 67b,c
REPFLD - Figures 63a,c
MVRFLD - Figures 64a,b
RMVFLD - Figures 65
GFMFLD - Figures 72a-e
GDPFEX - Figures 70a-c
GDPFLC - Figures 71

Changing Characteristics:

ADDDIM - Figures 73a,b	INQATT - Figures 93a-c
INQSIZ - Figures 102a-c	INQDIM - Figures 101a,b
INQDOM - Figures 95	INQVAL - Figures 104
INQLOC - Figures 97a,b	INQABS - Figures 92a-c
INQTYP - Figures 103a-c	INQPRO - Figures 99a-c

INQAPR - Figures 118, 121, 122	INQHLP - Figures 96a-c
RMVATT - Figures 105a-d	RMVDIM - Figures 75a, b
RMVDOM - Figures 108a, b	107a, b
RMVHLP - Figures 110a, b	RMVARY - Figures 111a, b
RMVVAL - Figures 113a-d	RMVPRO - Figures 100a, b
SETAPR - Figures 119, 120	RMVAPR - Figures 123-126
SETDIM - Figures 83a, b	SETDOM - Figures 74a-e,
SETDIS - Figures 62c, d	76a-d
SETLOC - Figures 63b, c,	SETNAM - Figures 73a, b
81a-d	SETTYP - Figures 84a-c,
SETVAL - Figures 89a-91b	86a, b
SETSIZ - Figures 85a-d,	88a-d
87a-d	SETATT - Figures 78a, b
SETHLP - Figures 80a-f	SETPRO - Figures 77a-f,
	98c-e

Modifying the Display List:

ADDELM - Figures 7a-v
ADDfrm - Figures 8a-d
APRFLD - Figures 116a-d
GETATT - Figures 22a, b
GETBAK - Figures 6a, b
GPAGE - Figures 11a, b
GWINDO - Figures 12a, b
PUTATT - Figures 23a, 24b, 27a-c
PUTBAK - Figures 25a, b, 28a, b
RMVPAG - Figures 10a, b
RPLFRM - Figures 9a, b

Transferring Data:

PDATA - Figures 16a, b, 18a, b
GDATA - Figures 17a, b, 19a, b

Displaying Forms:

OUTSCR - Figures 31a-c
OISCR - Figures 31a-c

Getting and Setting the Cursor Position:

GETCUR - Figures 29a, b
PARFQN - Figures 30a, b
PUTCUR - Figures 29a-c

Displaying Messages:

PMSGLC - Figures 34k
PMSGLS - Figures 34n

Creating and Modifying Logical Devices:

CHGLDV - Figures 40a, b
CLSLDV - Figures 54a, b
GETLDV - Figures 36a, b
INQLDV - Figures 35a, b
MOVLDV - Figures 52a-c
OPNLDV - Figures 39a, b

SETLDV - Figures 37a,b 38a,b

4.1.2 User Profile Maintenance

GTUINF - Figures 3a,b

4.1.3 Virtual Terminal Pass-through

GETVTI - Figures 4a,b

INITVT - Figures 4a-6b

PUTVTI - Figures 6a,b

TERMVT - Figures 4a-6b

4.2 Testing Methods and Constraints

The tests as outlined in Section 5 must be followed. The required input is stated for each test. This testing uses the normal mode of operation of these functions and does not completely exercise all the error combinations that a user of the Application Interface might create by faulty entry of parameter information. Much of this testing has been done, however, through the normal testing done by the developer of these functions. No data recording is required. It is suggested that on further running of this test, scripting of the test may be done and the output from running the script be saved for future testing. No additional constraints are placed on this unit test besides those listed in Section 3.3 of this unit test plan.

4.3 Test Progression

The progression of testing of the Application Interface is fully outlined in Section 5 of this unit test plan. This progression should be followed exactly to insure the successful testing of this IISS configuration item.

4.4 Test Evaluation

The test results are evaluated by comparing the information returned on the various output screens to that specified as successful for the given test. As outlined in Section 5, each test of Application Interface functionality provides an input screen with the required data entry specified and the resulting output for a successful test. To speed up this testing and provide more accurate measurement of the test's success, scripting has been used. The resulting output of these tests is saved in the files FPUTP.SAV and FPDFUTP.SAV. The corresponding test script files are FPUTP.SC and FPDFUTP.SC. All of these files are under IISS Configuration Management. If scripting is used, these files should be copied over to the test directory. The .SAV files may be used for future comparison against subsequent running of this unit test using scripting. To compare the results use the command file DIFFILE.COM which is under Configuration Management. The only differences should be the date/time stamps on the IISS Function Screen and the type of device on the window manager screen. The device type is given to the UIS by the NTM at run time. Note that the script files used to test the Application Interface are the same as two of

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the ones used to test the Form Processor. The latter part of the FPUTP.SCRIPT which tests window management processing is not necessary for the testing of the Application Interface.

SECTION 5

TEST PROCEDURES

5.1 Test Description

The program ARTEST is used to perform this test. Commands are entered on the ARTEST form Command Line field. The commands are then translated by the program into a call to the appropriate Application Interface routine and the resulting output is observed on the ARTEST form.

5.2 Test Control

As outlined, this unit test may be done manually or run automatically using a supplied script file. To manually perform this unit test requires the tester to be logged into the IISS system and enter ARTEST on the IISS Function Screen. In section 5.3 the required input data is specified for each function being tested and the resulting successful output is also specified. The order of the testing is also completely specified. The test control information is completely described by the sequence of the input and output screens presented in this section. The successfulness of the test may be determined by doing a comparison on the .SAV files produced against the ones provided under IISS Configuration Management.

5.3 Test Procedures

To run the unit test plan as outlined in this section on a VAX, one must be logged on to an IISS account. The NTM must be up and running and the UI group logical names IISSFLIB and IISSMLIB must be set properly. IISSFLIB points to the directory containing production form definitions (FD files). IISSMLIB points to the directory containing error messages (MSG files).

This unit test uses the program ARTEST and its associated forms ff1 through ff39. The FDL source file for these forms is presented in Appendix B. The executable for ARTEST should exist in the NTM environment directory and the NTM dirtbl.dat file should have its SD entry pointing to this directory. The NTM tables APITBL and APTTBL should have ARTEST set up as a normal IISS application program. This test uses the files PRINT.DEV, FPUTP.DAT, and DFTEST.DAT. DFTEST.DAT is under IISS Configuration Management and is needed for the script file FPDFUTP.SCRIPT. The other two must be created in the NTM environment directory before beginning the test.

Assuming the NTM is up and running, an IISS user may start up this unit test plan as follows:

```
$ SET DEF <to directory containing your NTM environment>
$ VT100 -RFPUTP.SCRIPT -SFPTST.SAV
```

This starts up the VT100 device driver with the first script as input and specifies a save file for output. If the User Interface system has been installed at your site with a

different device driver, then this step is amended as appropriate. The test begins executing on the terminal. When the \$ returns, run the second script by entering:

```
$ VT100 -RFPDFUTP.SCP -SFPDFTST.SAV
```

The results of the test are saved in the .SAV files. These files should be compared with the appropriate .SAV files under Configuration Management as described in section 4.4. The following figures show not only the form input and output but also the sequencing of the test. NOTE that the FPDFUTP.SCP file creates versions of FF1.FD and FF1.FDL in the NTM environment directory. These must be deleted before running any other tests using the ARTEST program or rerunning any portion of this test.

The image shows a logon screen with a large rectangular border. Inside, there are three text input fields: 'User ID:' with a box to its right, 'Password:' with a box to its right, and 'Role:' with a box to its right. At the bottom left, there is a small box labeled 'MSG:' containing the number '0'. At the bottom right, the word 'application' is written in a small, lowercase font.

User ID:

Password:

Role:

MSG: 0

application

Figure 5-1a Logon Screen

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User ID:	<input type="text" value="morenc"/>
Password:	<input type="text"/>
Role:	<input type="text" value="manager"/>
MSG:	<input type="text" value="0"/>
application	

Figure 5-1b Enter User Information

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I I S S T E S T B E D V E R S I O N 2.3			
Date: 11/30/87	Time: 12:56:10	User ID: MORENC	Role: <input type="button" value="MANAGER"/>
Function: <input type="text"/>	Device Type: <input type="text"/>	Device Name: <input type="text"/>	
MSG: <input type="text" value="0"/>	application		

Figure 5-1c IISS Function Screen

I S S T E S T B E D V E R S I O N 2.3			
Date: 11/30/87	Time: 12:56:10	User ID: MORENC	Role: <input type="text" value="MANAGER"/>
Function: <input type="text" value="artest"/>	Device Type: <input type="text"/>	Device Name: <input type="text"/>	
MSG: <input type="text" value="0"/>	application		

Figure 5-2a Start ARTEST Application

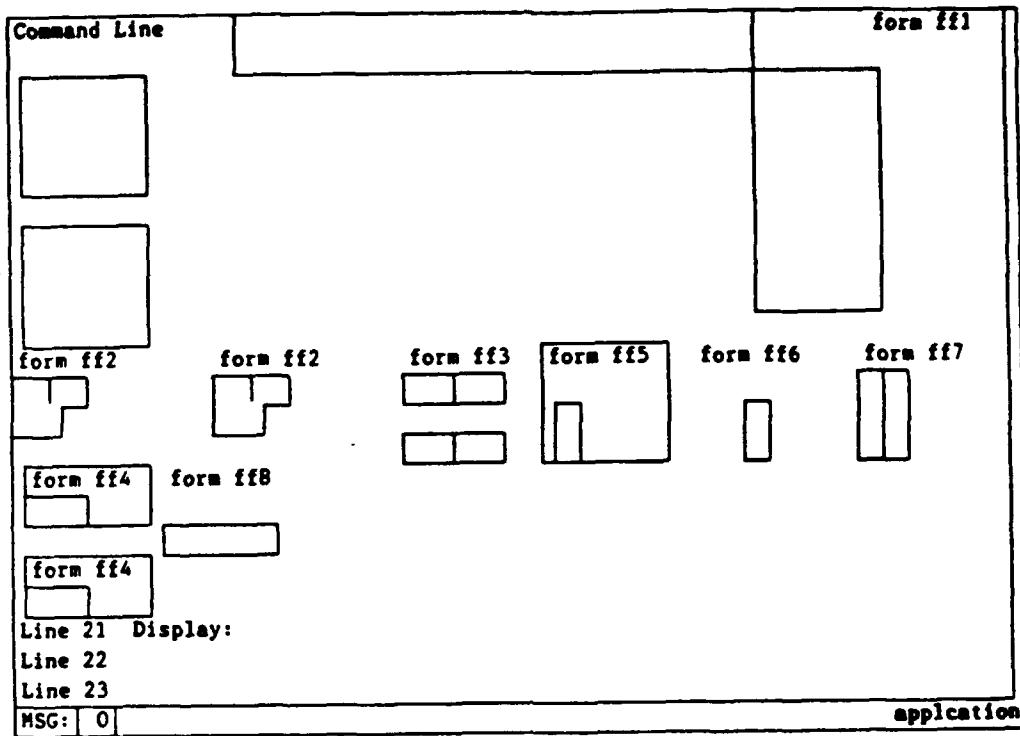


Figure 5-2b First ARTEST Screen

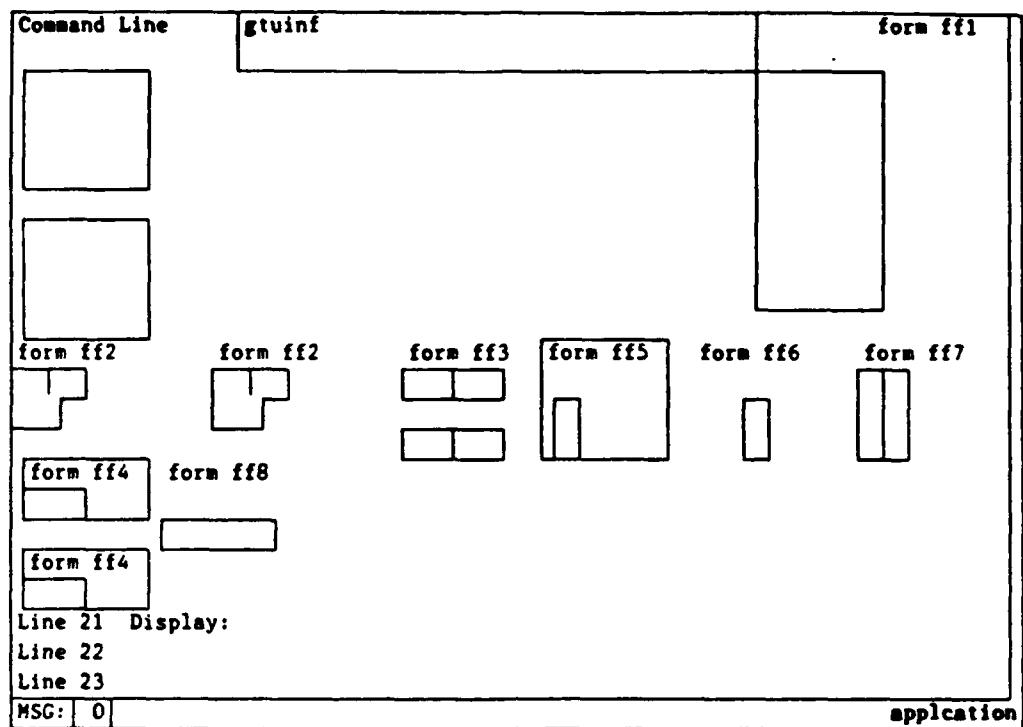


Figure 5-3a Test GTUINF

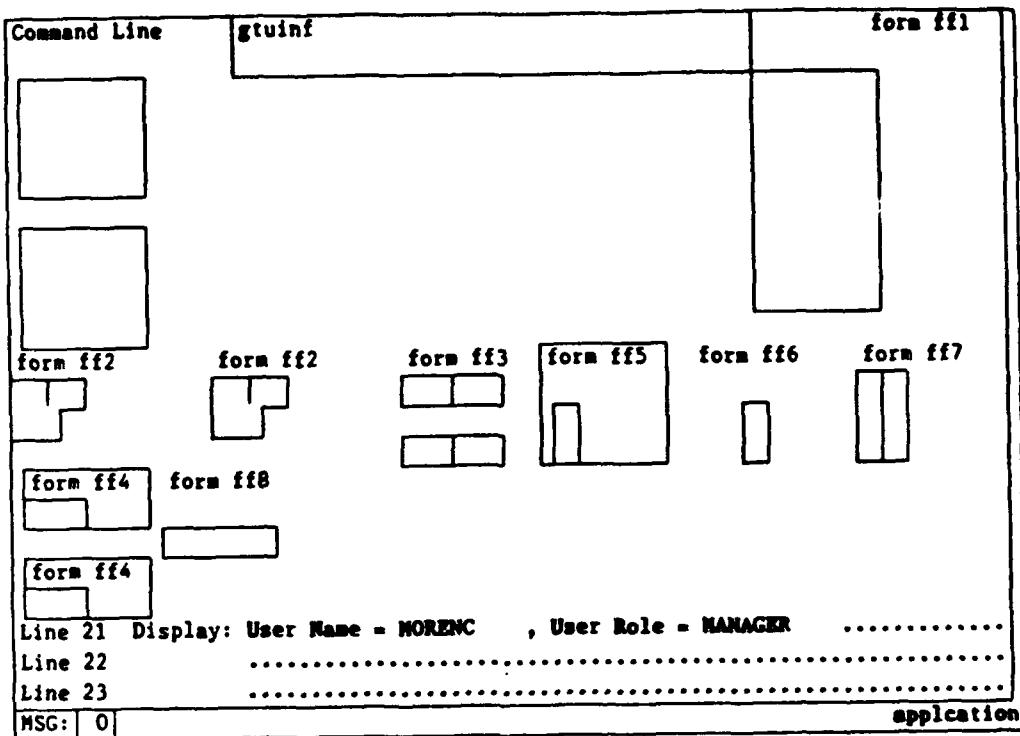


Figure 5-3b GTUINF Result

Command Line	getvti	form ff1
form ff2	form ff2	form ff3
form ff4	form ff8	form ff5
form ff4		form ff6
Line 21	Display: User Name = MORENC , User Role = MANAGER	
Line 22	.....
Line 23	.....
MSG: 0		application

Figure 5-4a Test GETVTI

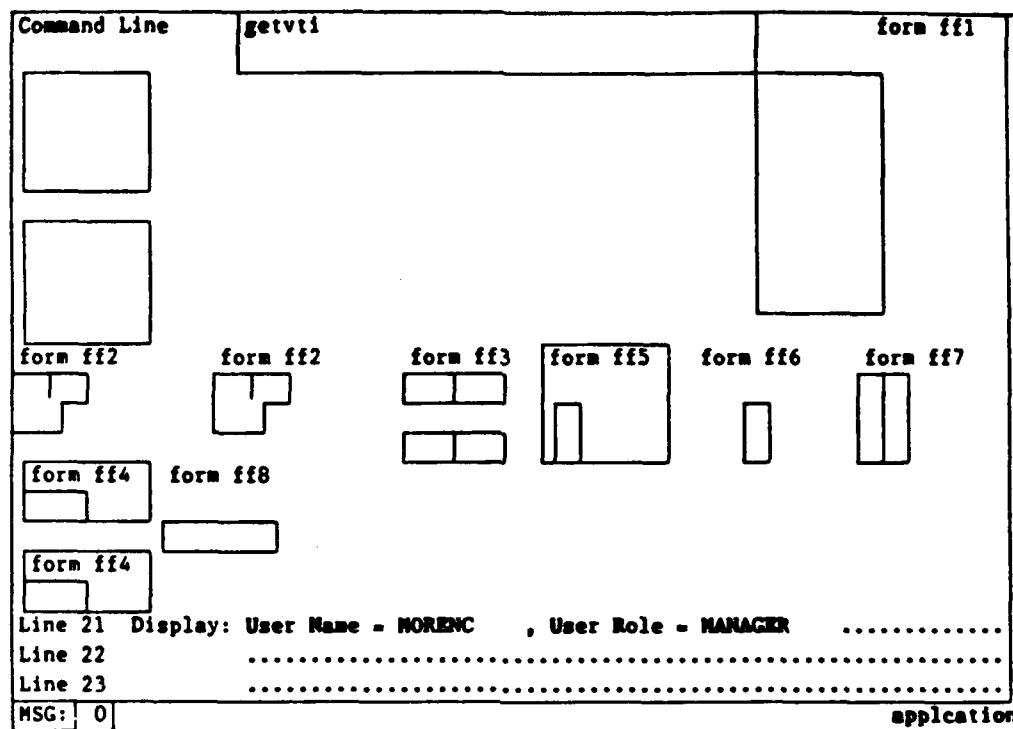


Figure 5-4b GETVTI Result

Command Line	getvti	form ff1			
<input type="text"/>		<input type="text"/>			
<input type="text"/>					
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
form ff4	form ff8				
<input type="text"/>	<input type="text"/>				
form ff4					
<input type="text"/>					
Line 21	Display: User Name = MORENC	, User Role = MANAGER	.....	
Line 22	.....			
Line 23	.....			
MSG:	0				application

Figure 5-5a Enter Data for GETVTI

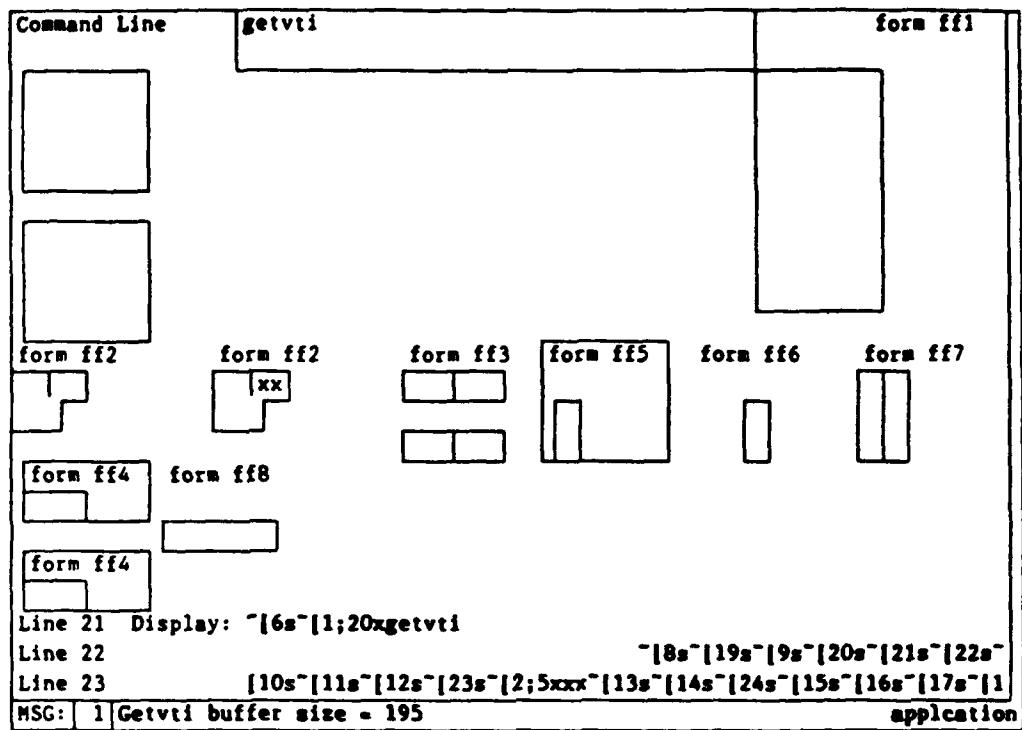


Figure 5-5b GETVTI Result

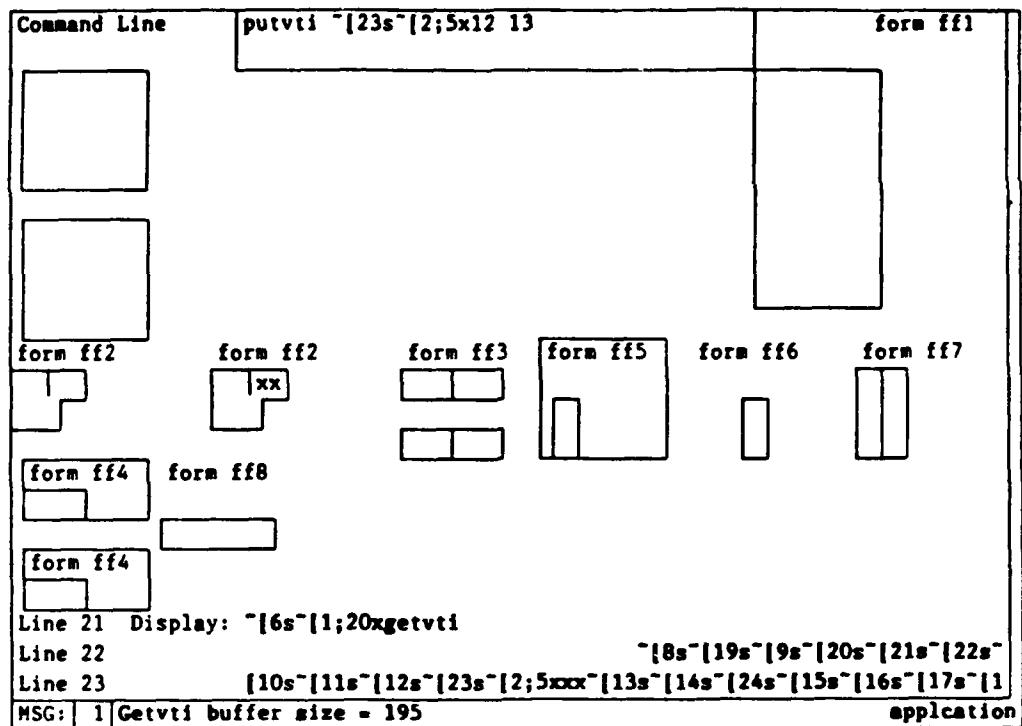


Figure 5-6a Test PUTVTI

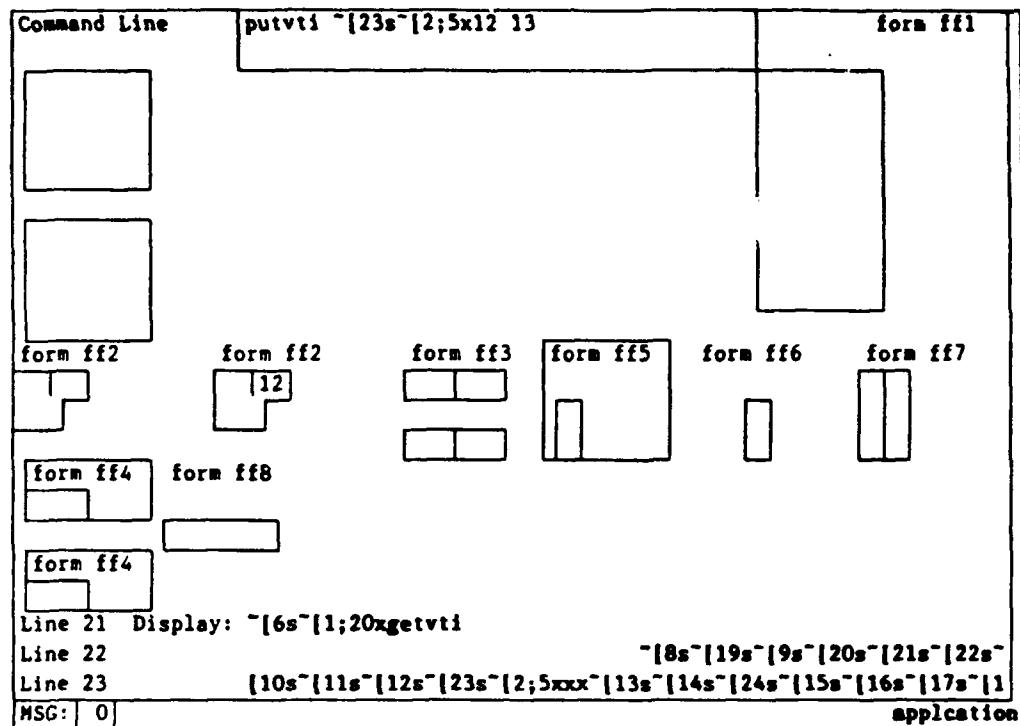


Figure 5-6b PUTVTI Result

Command Line	addfrm v3 ff10	form ff1			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
Line 21	Display:				
Line 22	.....			
Line 23	.....			
MSG: 0					application

Figure 5-7a Add Fixed Size Form

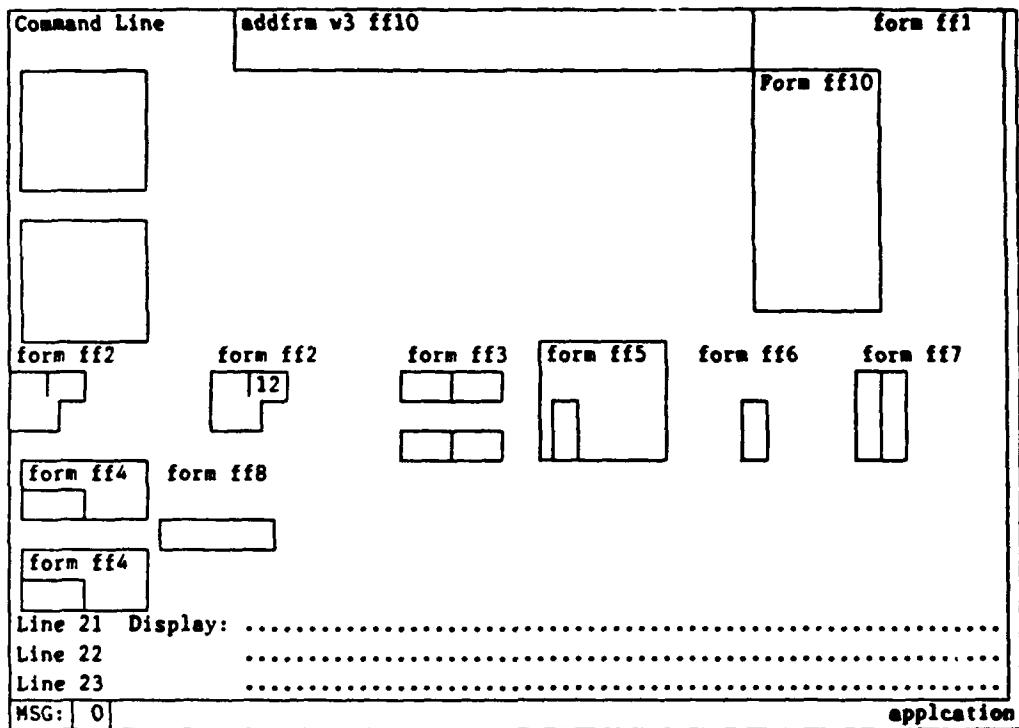


Figure 5-7b After Adding Fixed Size Form

Command Line	addelm ff10.11	form ff1			
		Form ff10			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
Line 21 Display:					
Line 22					
Line 23					
MSG:	0	application			

Figure 5-7c Add First Element to Form ff10

Command Line	addelm ff10.11	form ff1			
		Form ff10			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
form ff4					
Line 21	Display: 1	.....	.....	.....	.....
Line 22		.....	.....	.....	.....
Line 23		.....	.....	.....	.....
MSG: 0					application

Figure 5-7d Form ff10 with One Element

Press <ENTER>

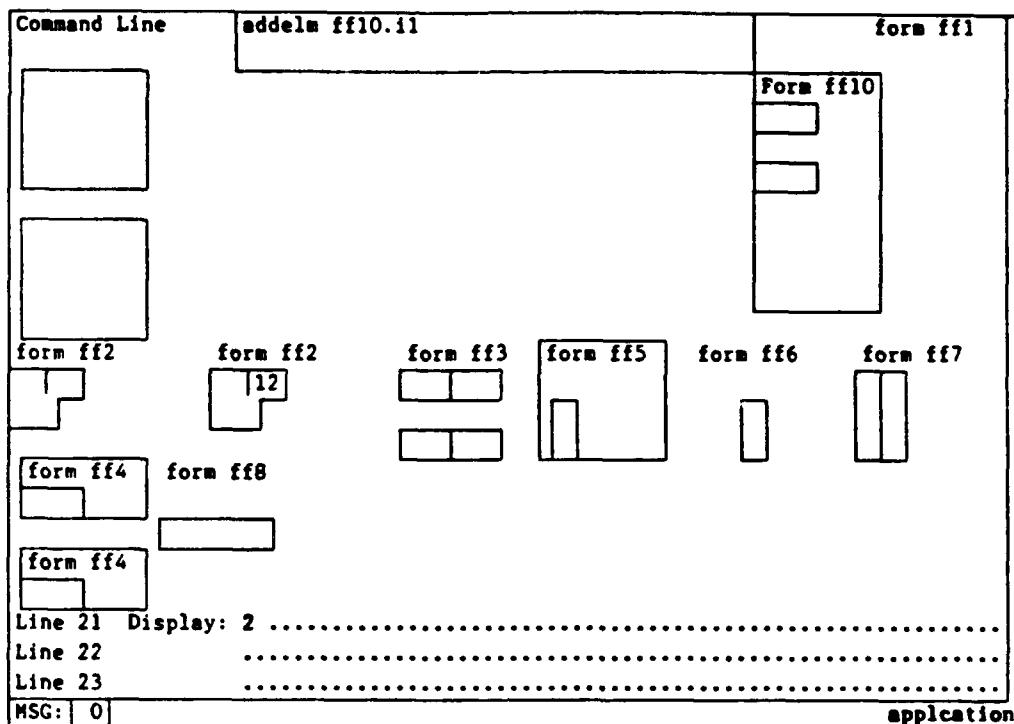


Figure 5-7e Form ff10 with Two Elements

Press <ENTER>

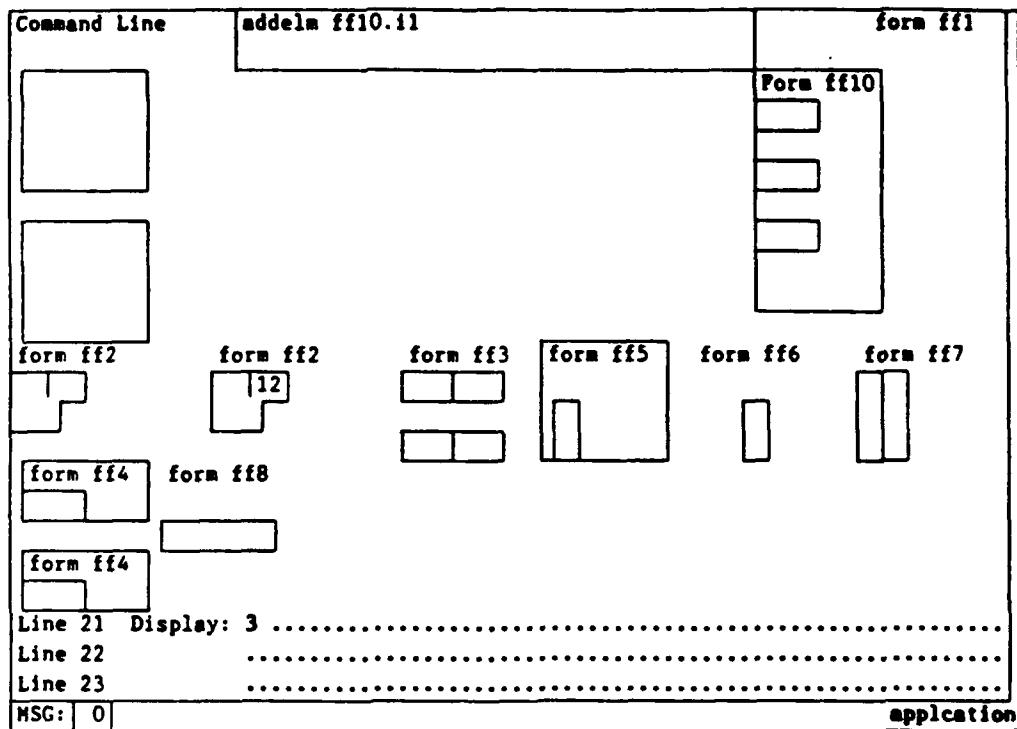


Figure 5-7f Form ff10 with Three Elements

Press <ENTER>

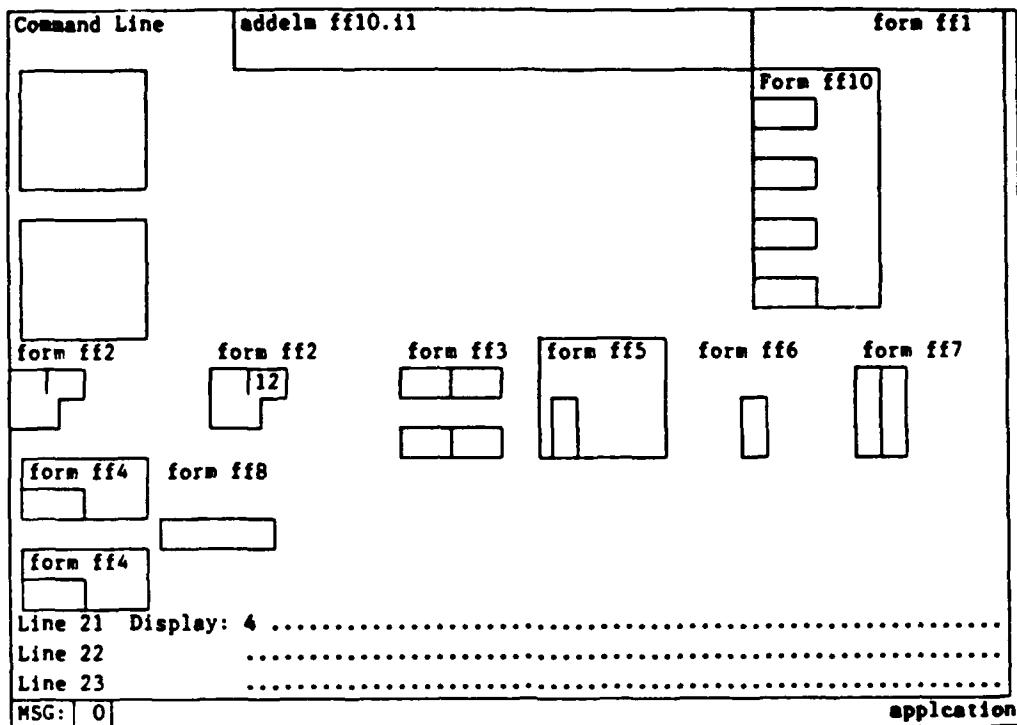


Figure 5-7g Form ff10 with Four Elements

Press <ENTER>

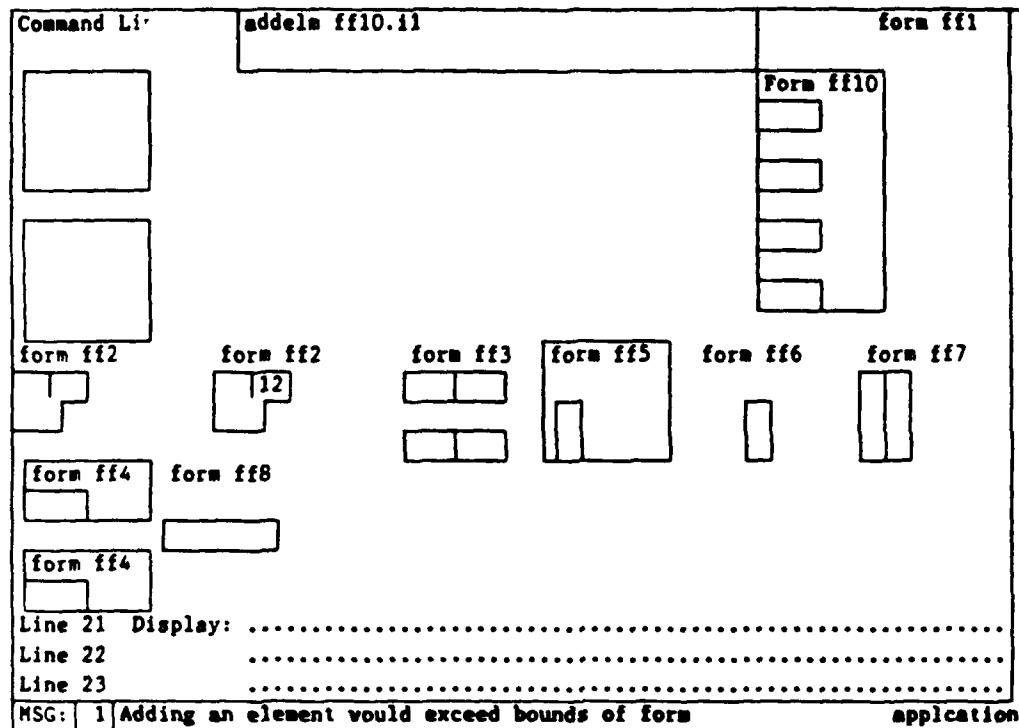


Figure 5-7h Form ff10 with Five Elements

Press <ENTER>

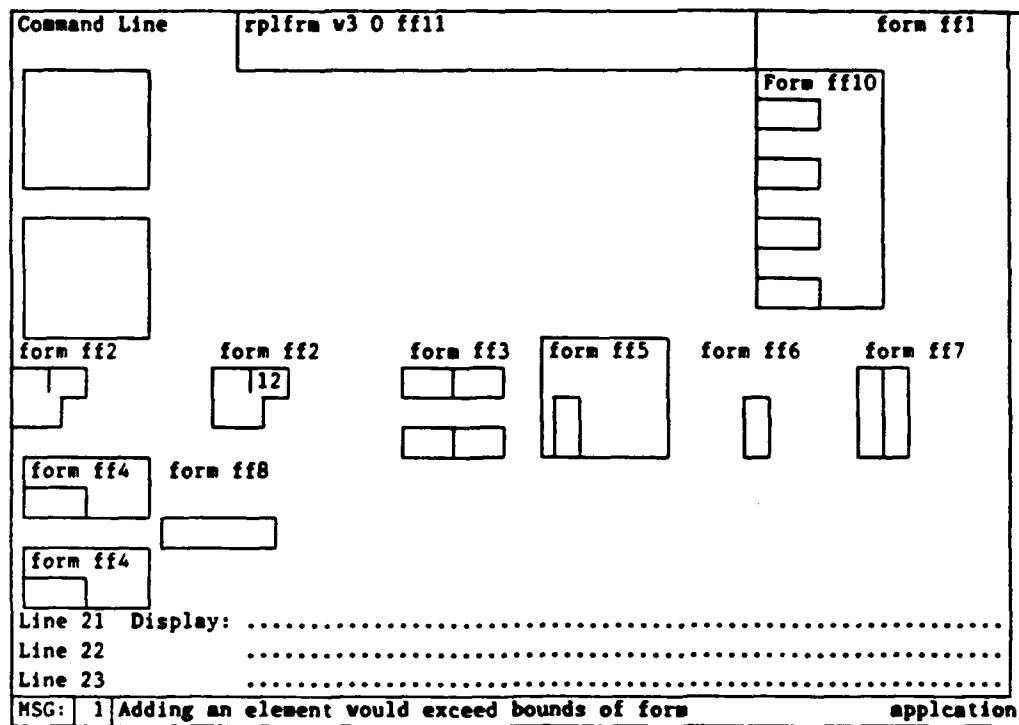


Figure 5-7i Error on Fixed Size Form

Command Line	rplfrm v3 0 ff11	form ff1			
		Form ff11			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
form ff4					
Line 21	Display:				
Line 22	.....			
Line 23	.....			
MSG: 0					application

Figure 5-7j Add Open-ended Form

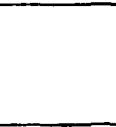
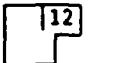
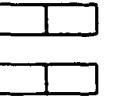
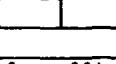
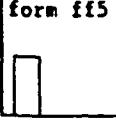
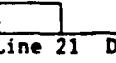
Command Line	addelm ff11.il	form ff1
		
		
form ff2	form ff2	form ff3
		
form ff4	form ff8	form ff5
		
form ff4		form ff6
		
Line 21	Display:	
Line 22	.....
Line 23	.....
MSG: 0		application

Figure 5-7k After Adding Open-ended Form

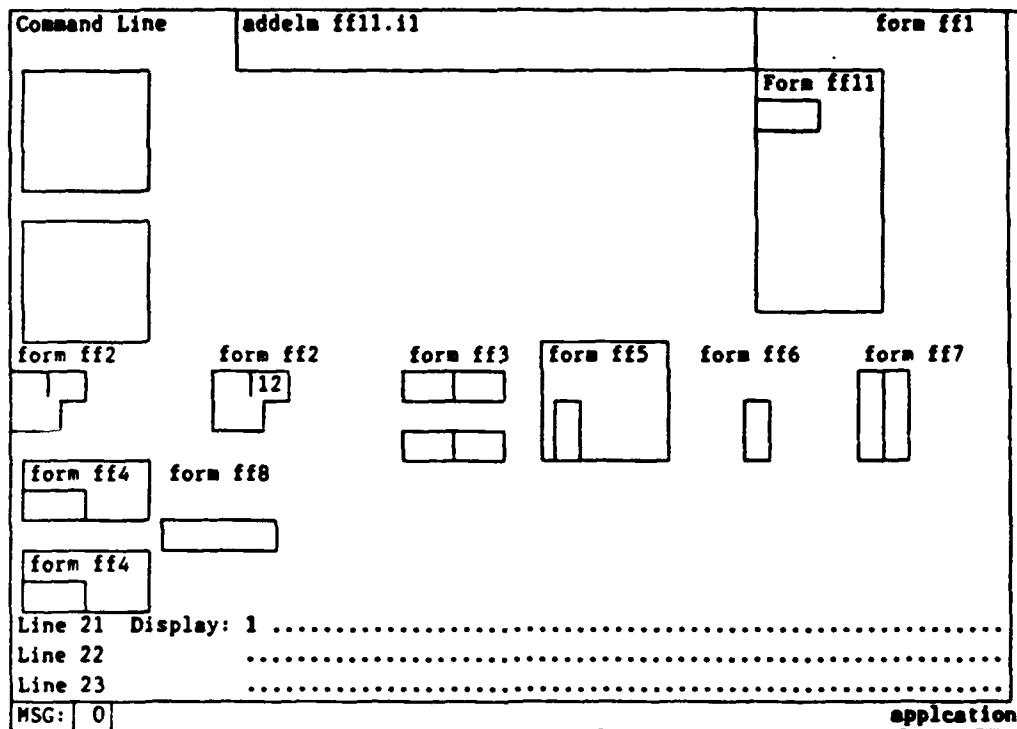


Figure 5-71 Add First Element to Form ff11

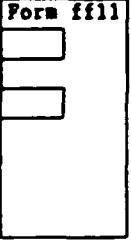
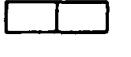
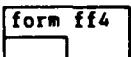
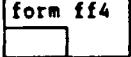
Command Line	addela ff11.11	form ff1
		
		
form ff2	form ff2	form ff3
		
form ff4	form ff8	form ff5
		
form ff4		form ff6
		
Line 21	Display: 2	
Line 22	.....
Line 23	.....
MSG: 0		application

Figure 5-7m Form ff11 with One Element

Press <ENTER>

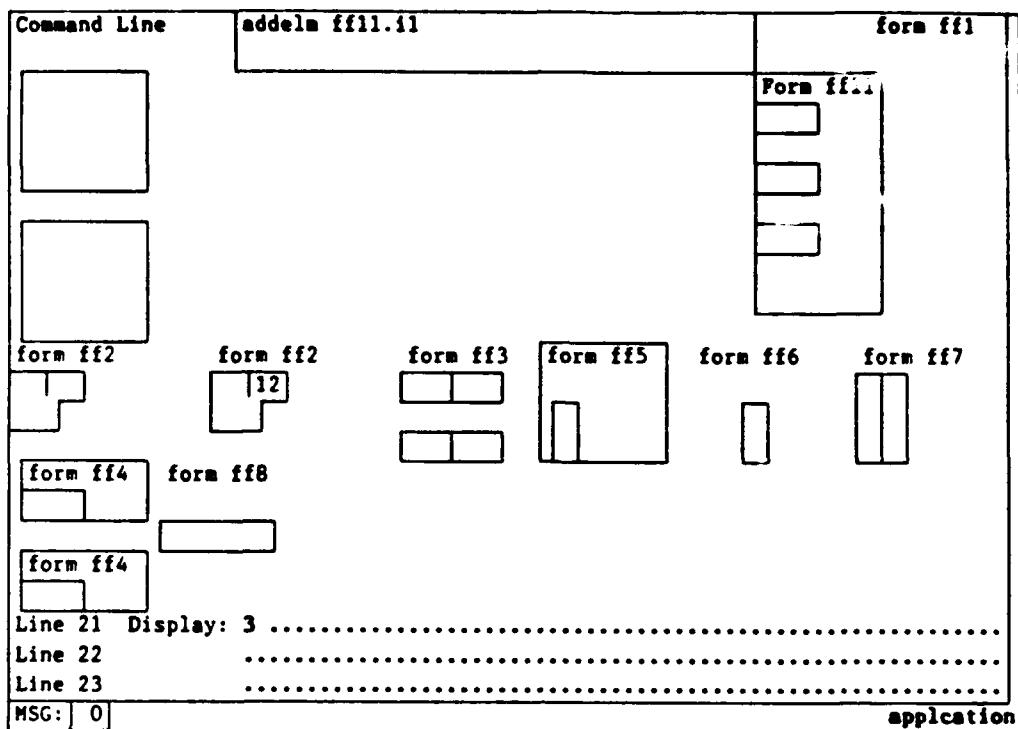


Figure 5-7n Form ff11 with Two Elements

Press <ENTER>

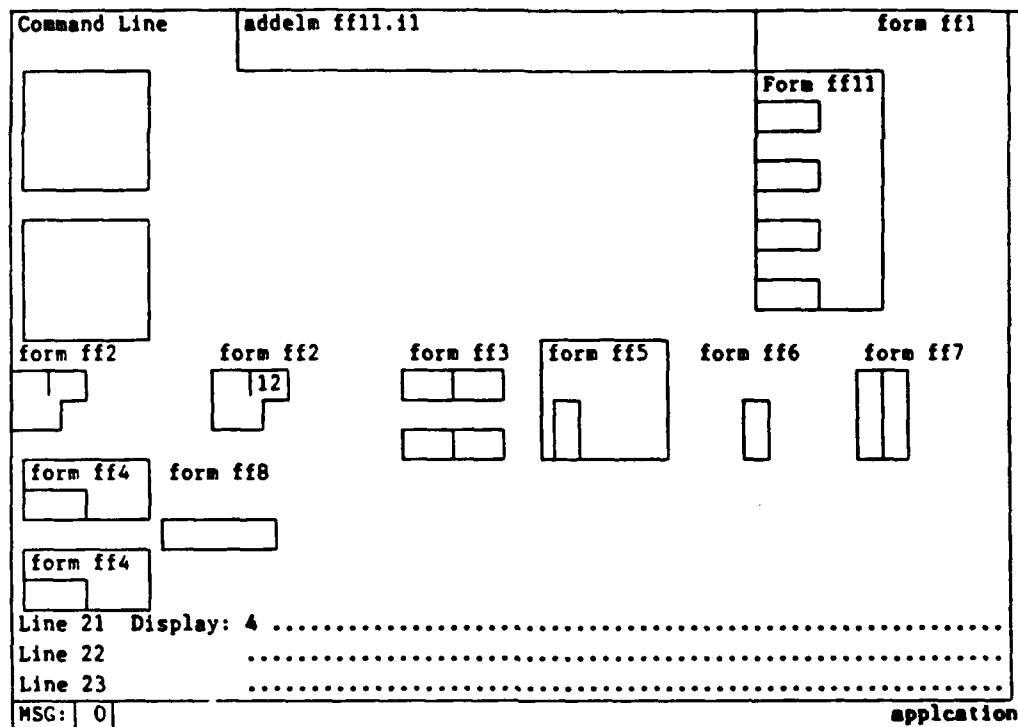


Figure 5-7o Form ff11 with Three Elements

Press <ENTER>

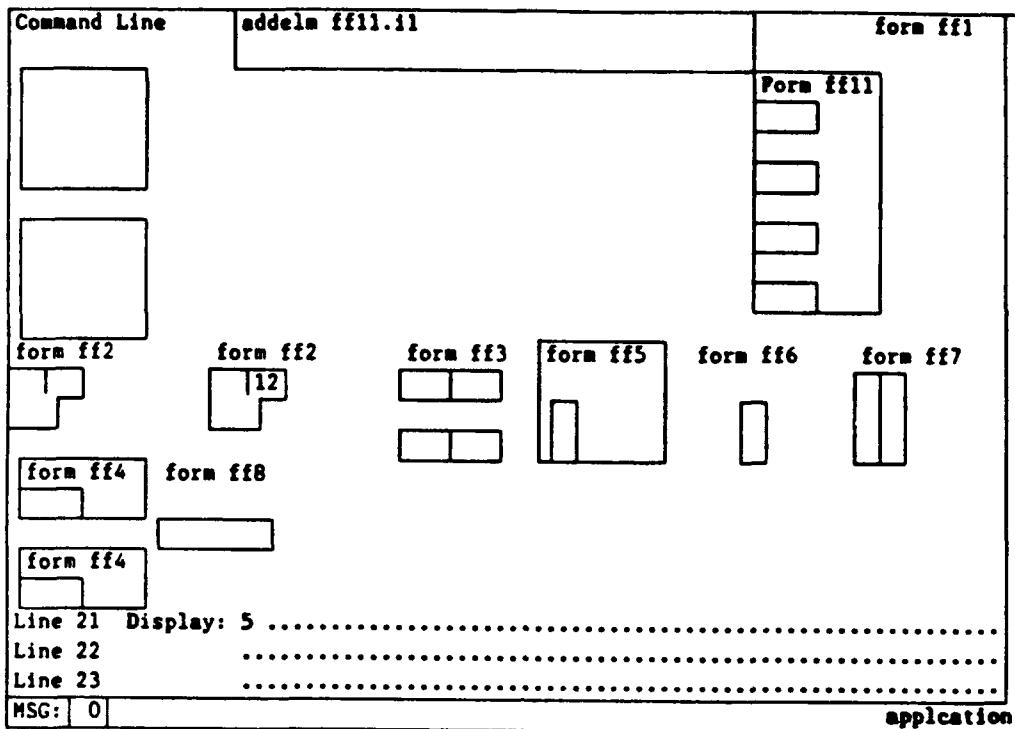


Figure 5-7p Form ff11 with Four Elements

Press <ENTER>

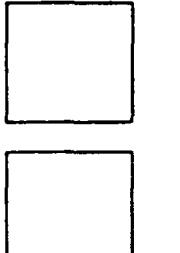
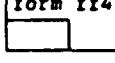
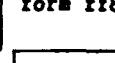
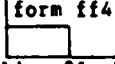
Command Line	addelm ff11.11	form ff1			
		Form ff11 1 2 3 4			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
					
form ff4	form ff8				
					
form ff4					
					
Line 21 Display: 5					
Line 22					
Line 23					
MSG: 0					application

Figure 5-7q Form ff11 with Five Elements

Press <ENTER>

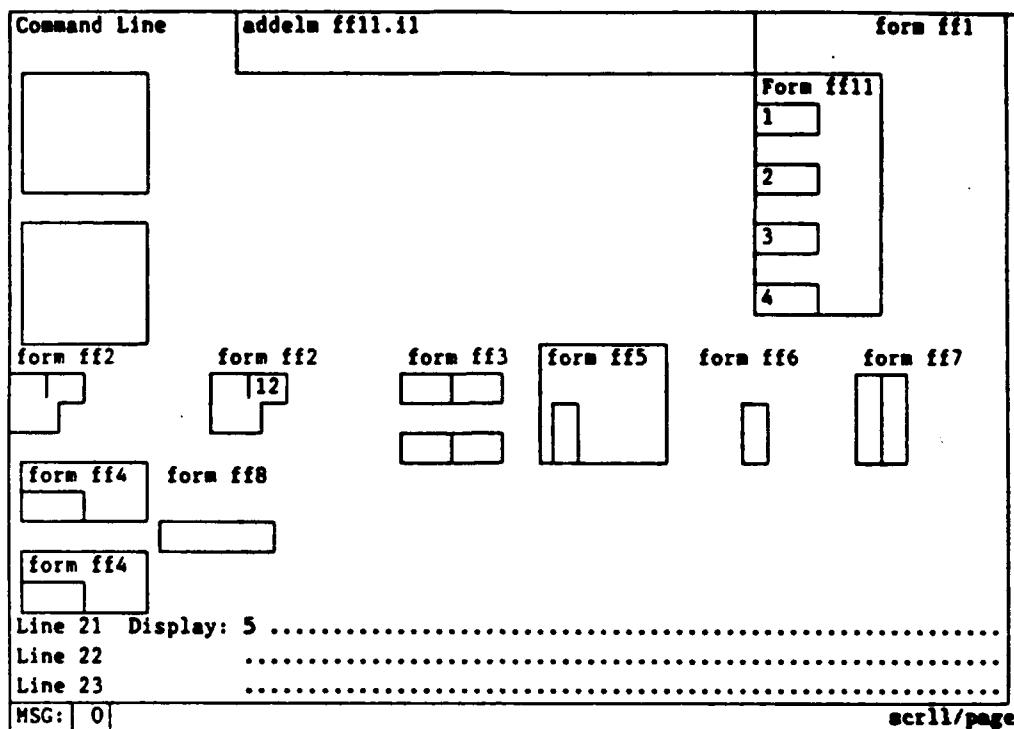


Figure 5-7r Form ff11 with Six Elements

Command Line	addelm ff11.i1	form ff1			
		Form ff11 2 3 4			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
frm ff4	ff8				
form ff4					
Line 21 Display: 5					
Line 22					
Line 23					
MSG:	0	scroll/page			

Figure 5-7s Add Data to Form ff11

Add data as shown and press <MODE> key to get into Scroll/Page mode.

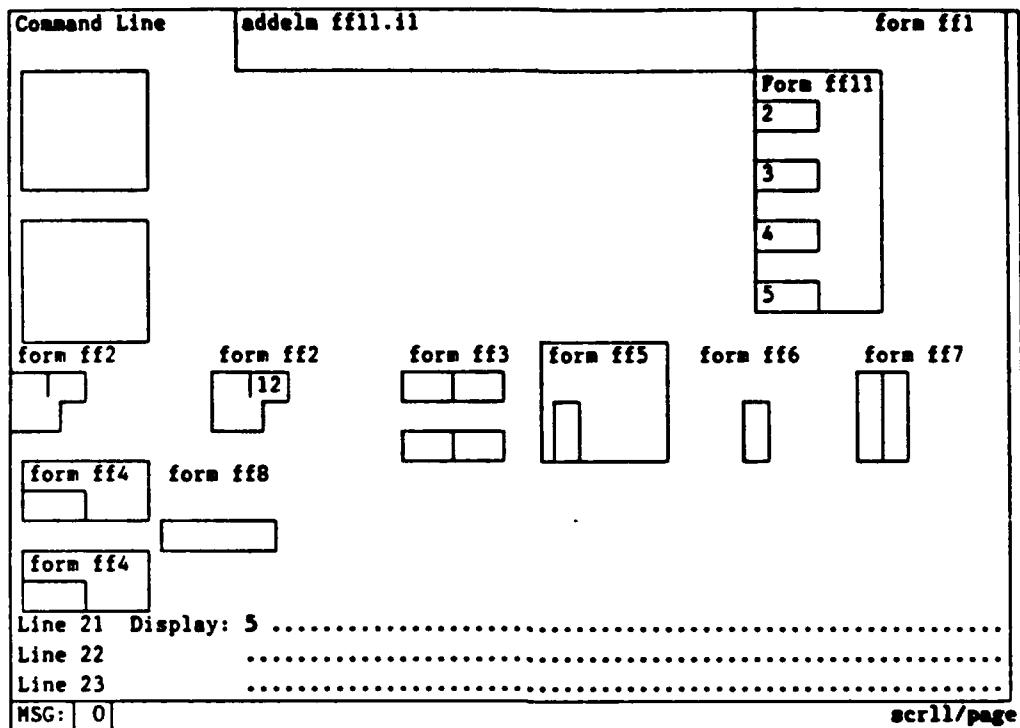


Figure 5-7t Scroll/Page Mode

Press PF5 <SCROLL UP>

Command Line	rplfrm screen 0 ff1	form ff1			
		Form ff11 2 3 4 5			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
	12				
form ff4	form ff8				
form ff4					
Line 21 Display: 5					
Line 22					
Line 23					
MSG:	0	application			

Figure 5-7u Form ff11 Showing Sixth Element

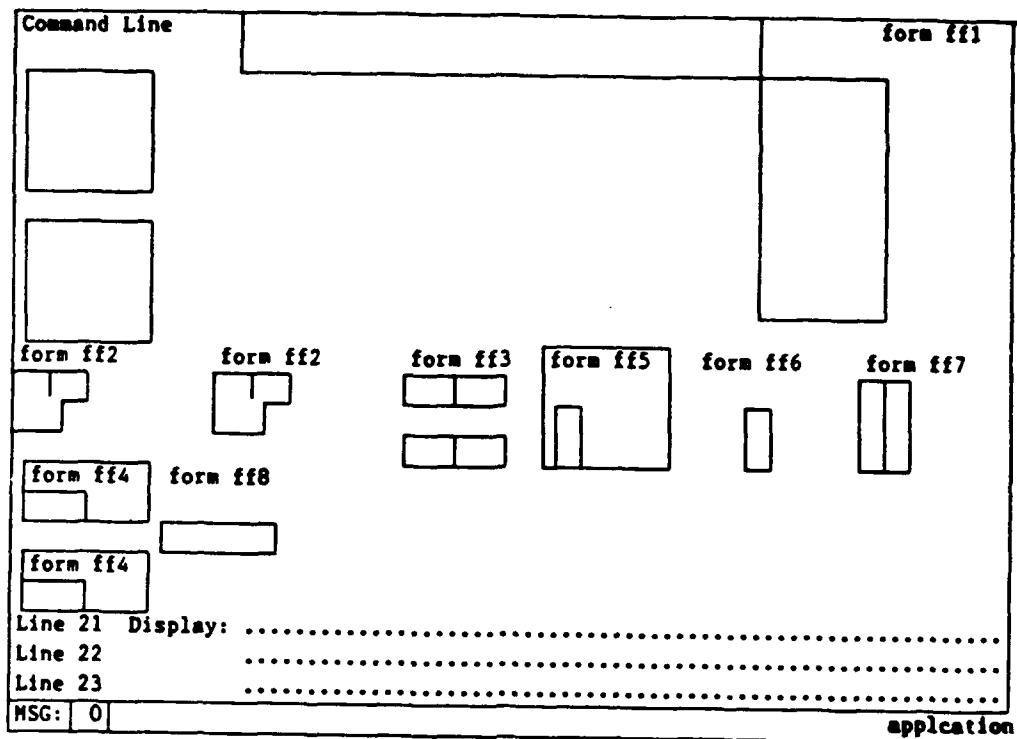


Figure 5-7v Add Data in Sixth Element

Add '6' as shown in Form ff1

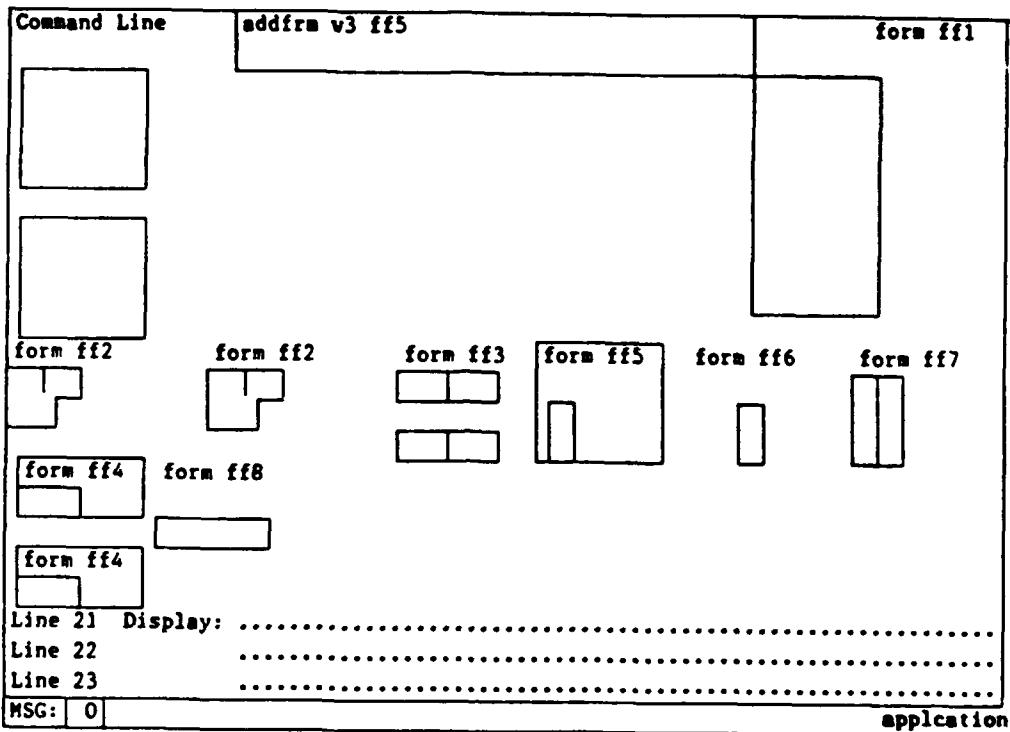


Figure 5-7w Remove Form ff11

Press <MODE> key to return to application mode then enter screen as shown

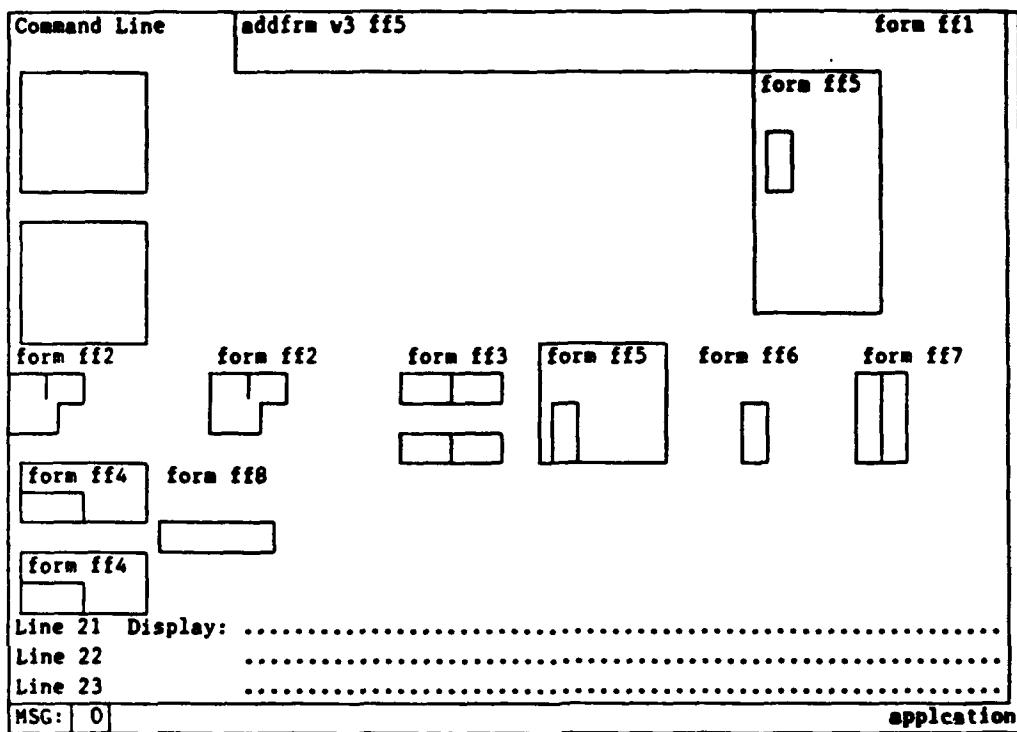


Figure 5-7x New Screen

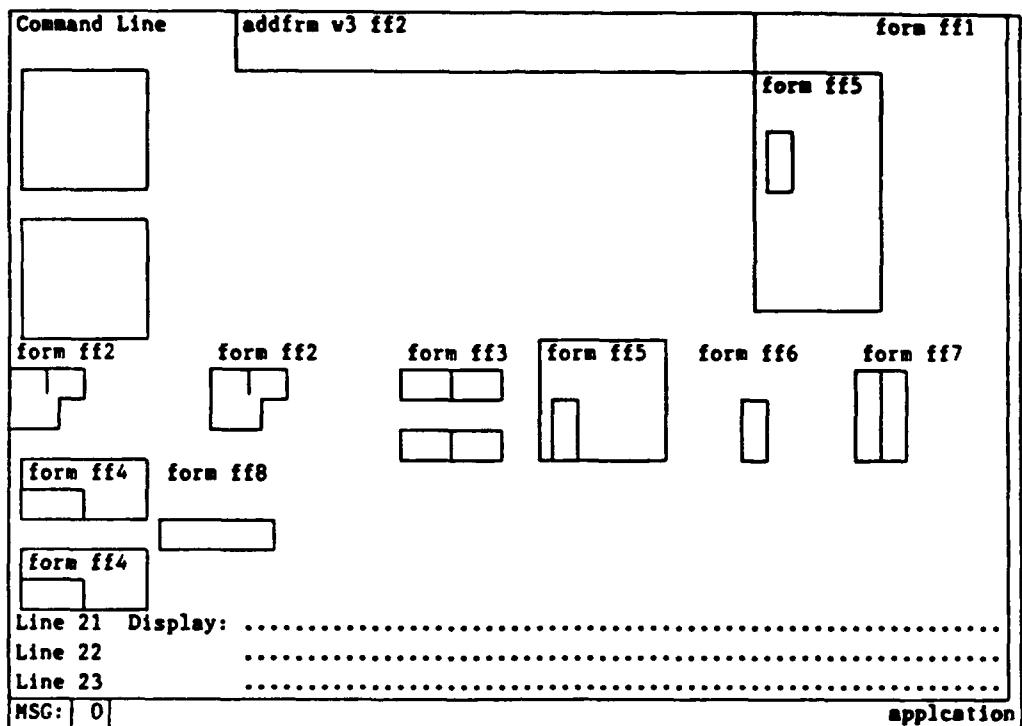


Figure 5-8a Test ADDFRM

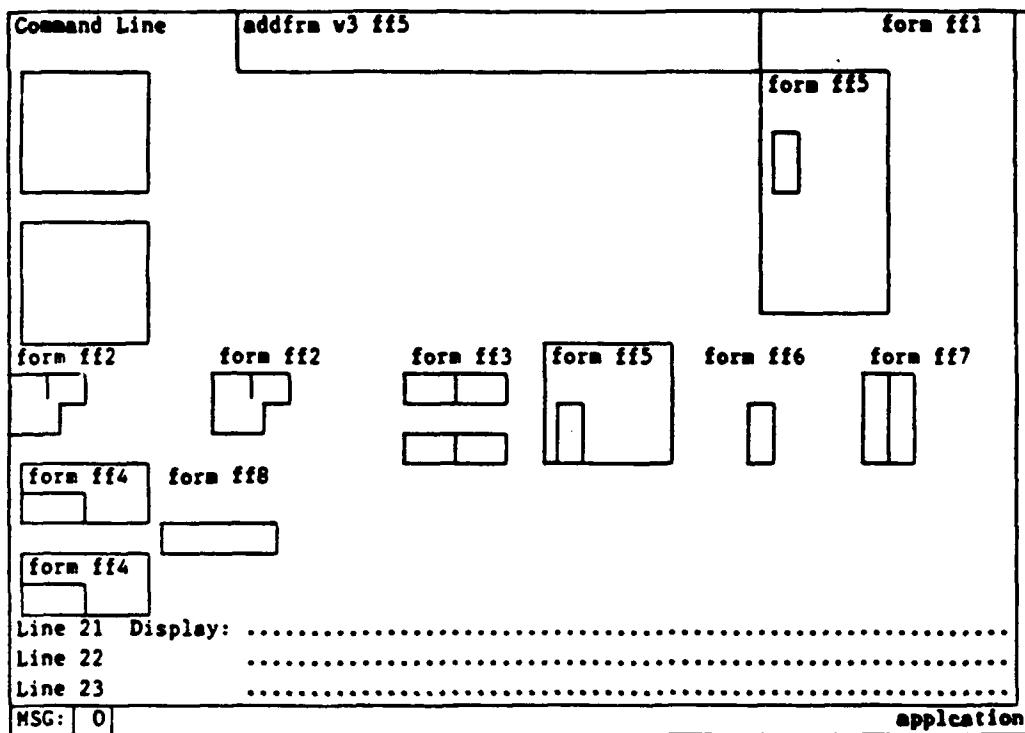


Figure 5-8b Form ff5 in W3

UTP620344700
30 September 1990

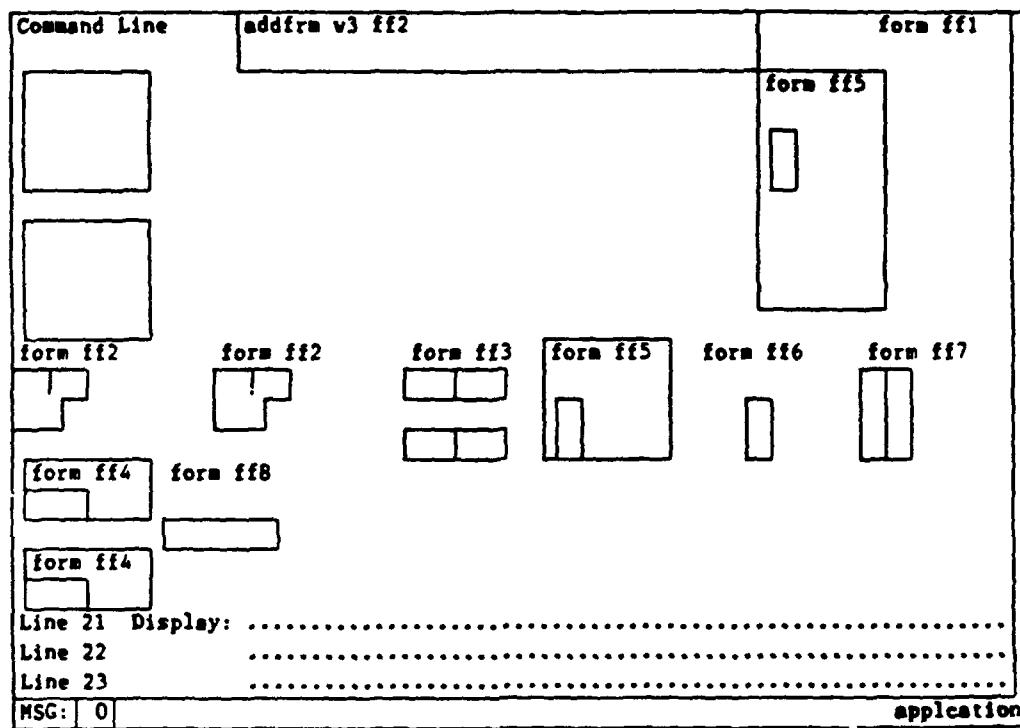


Figure 5-8c Add Another Form

UTP620344700
30 September 1990

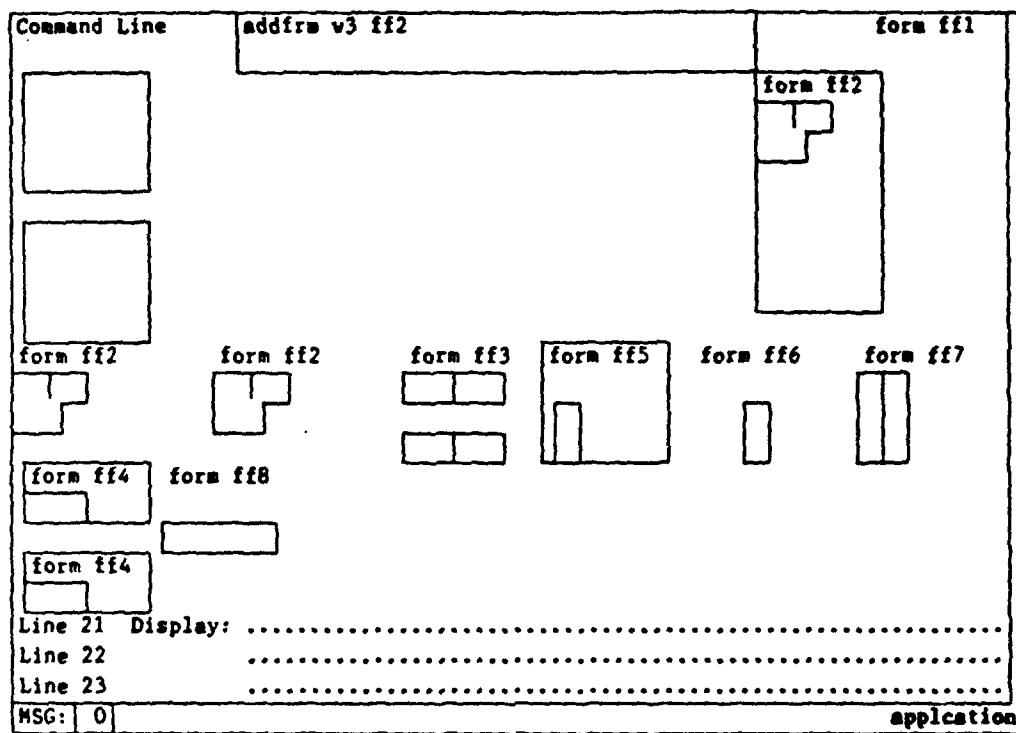


Figure 5-8d Form ff2 in W3

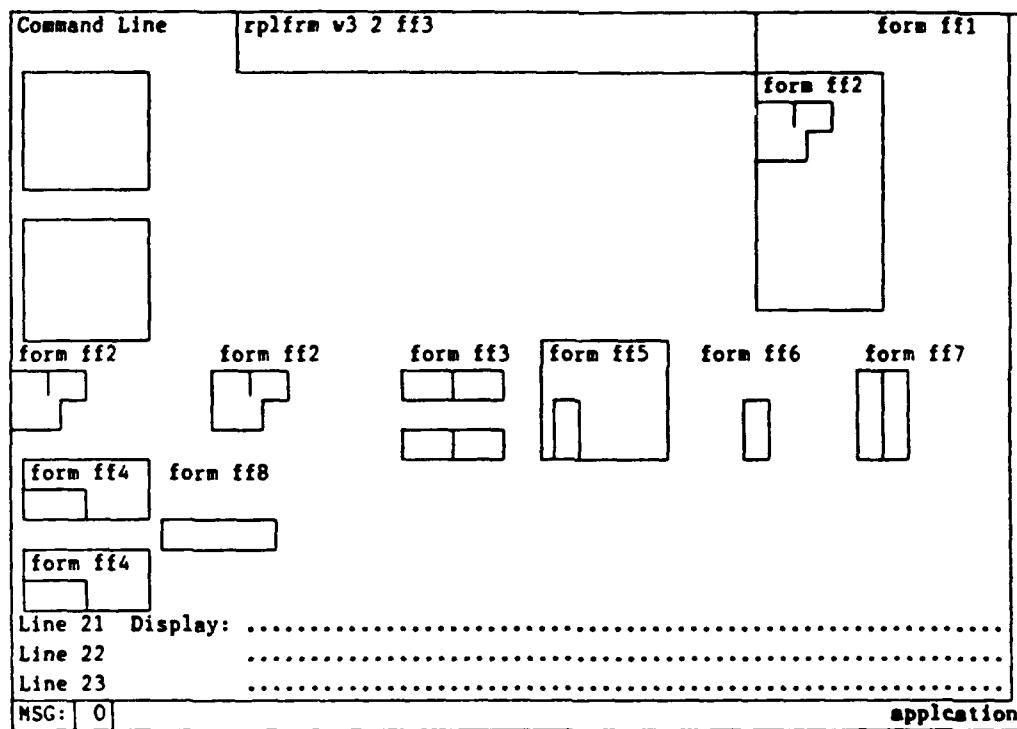


Figure 5-9a Test RPLFRM

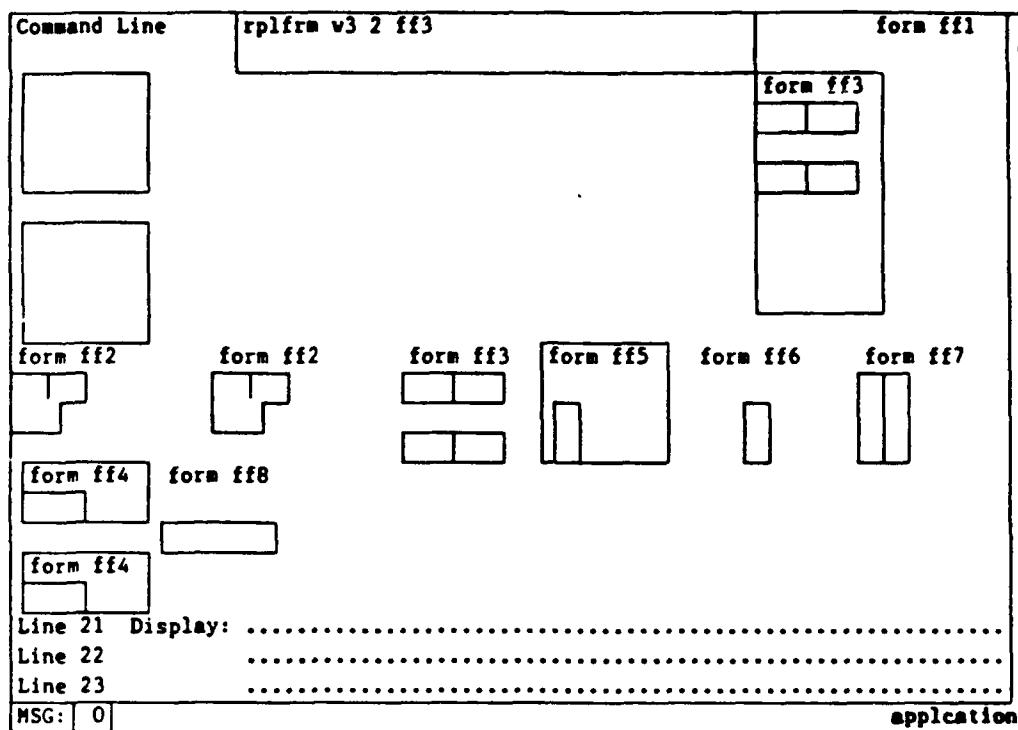


Figure 5-9b Form ff3 in W3

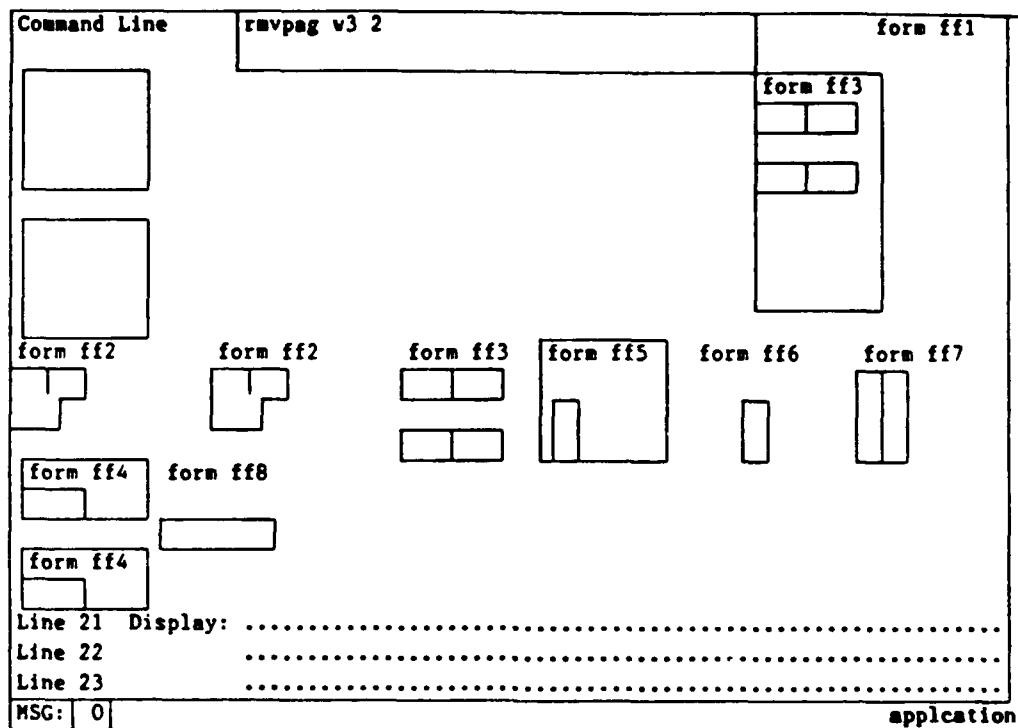


Figure 5-10a Test RMVPAG

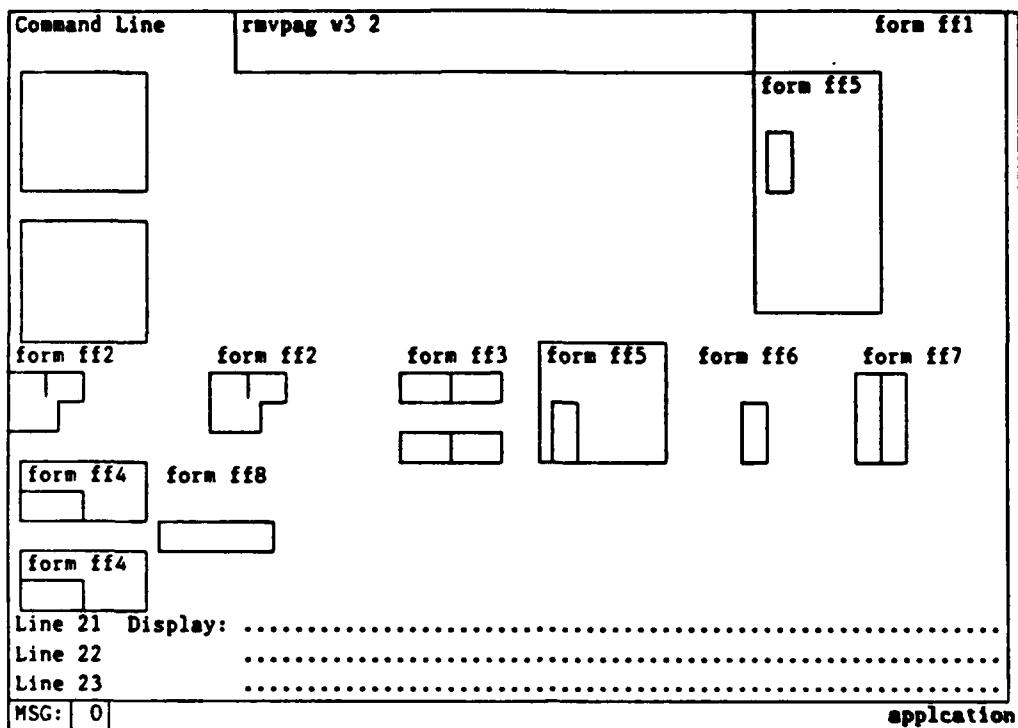


Figure 5-10b W3 with Page Removed

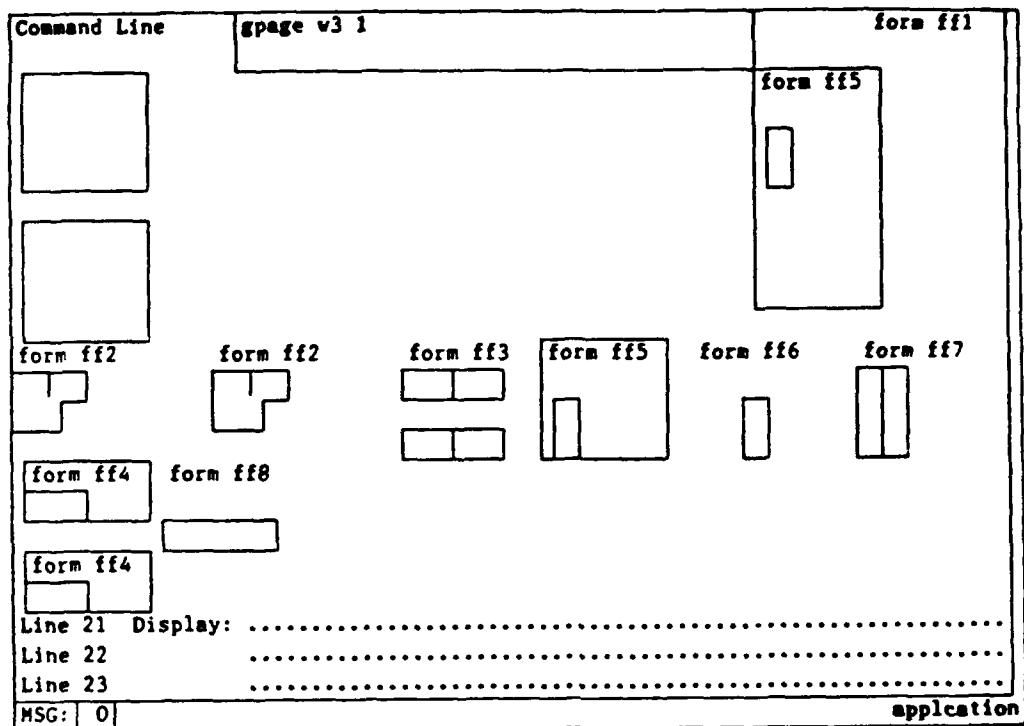


Figure 5-11a Test GPAGE

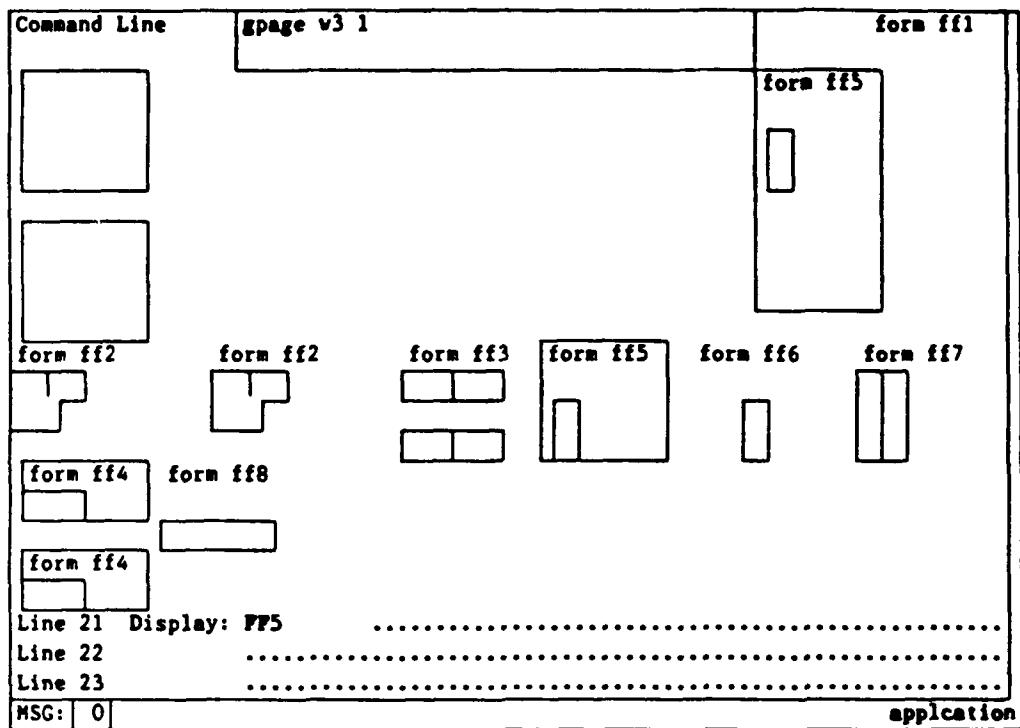


Figure 5-11b GPAGE Result

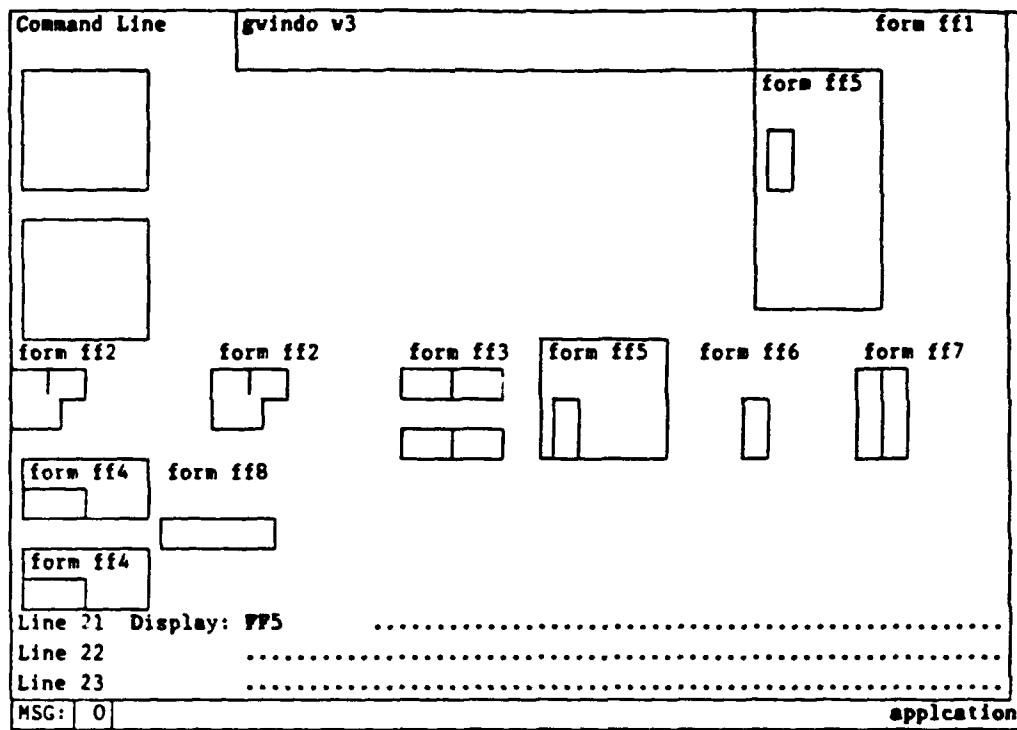


Figure 5-12a Test GWINDO

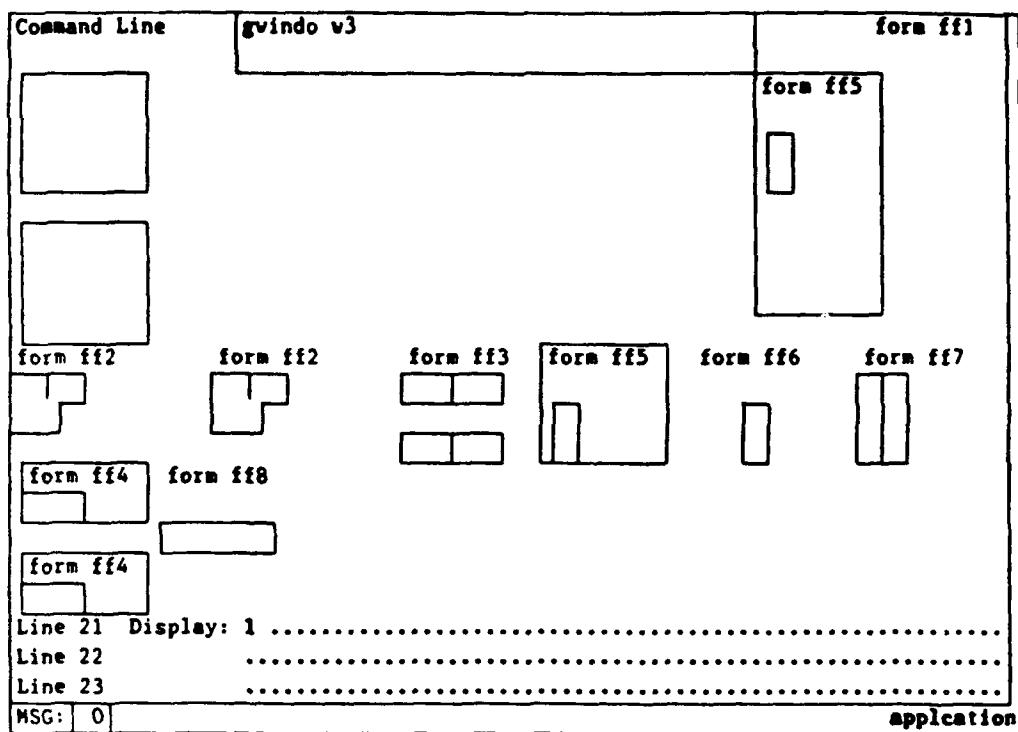


Figure 5-12b GWINDO Result

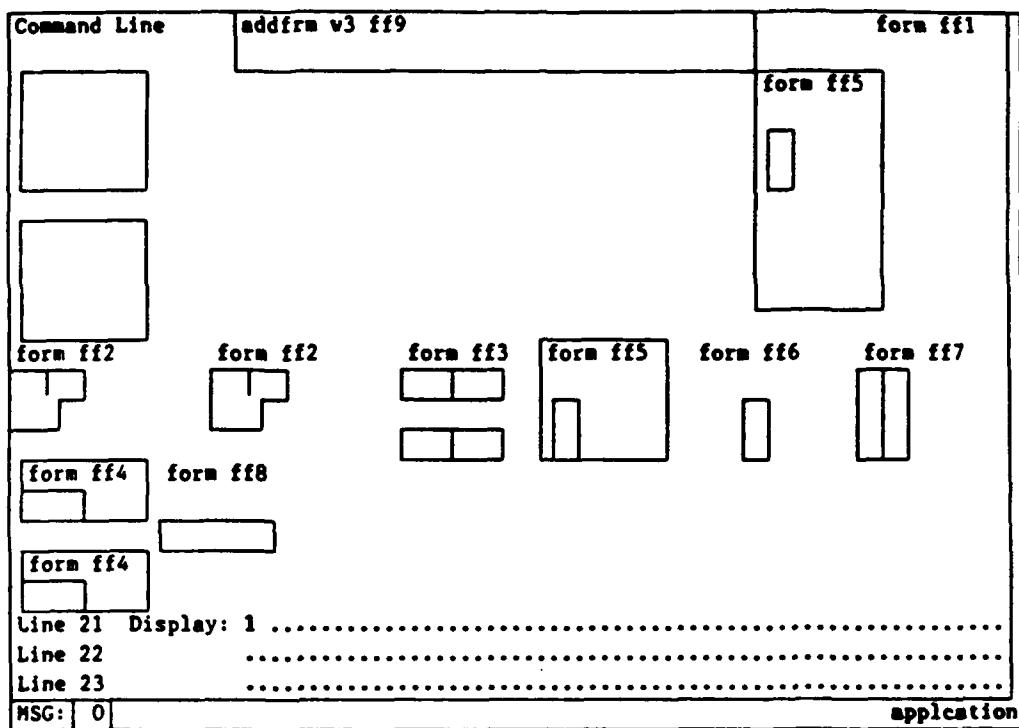


Figure 5-13a Add Form ff9

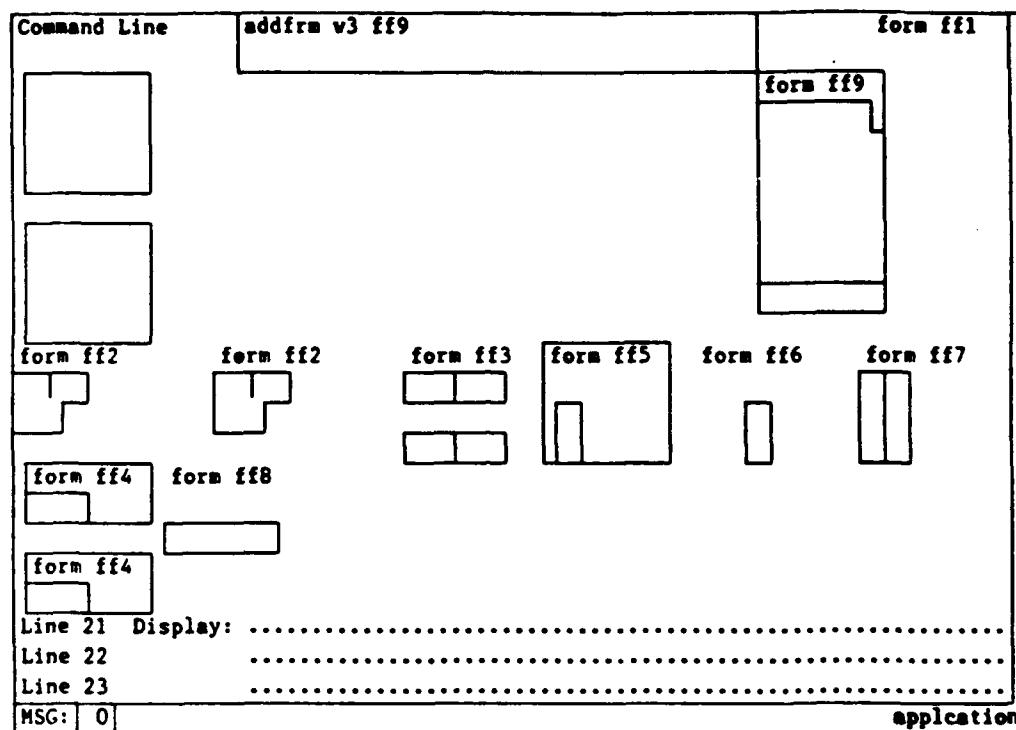


Figure 5-13b W3 with Form ff9

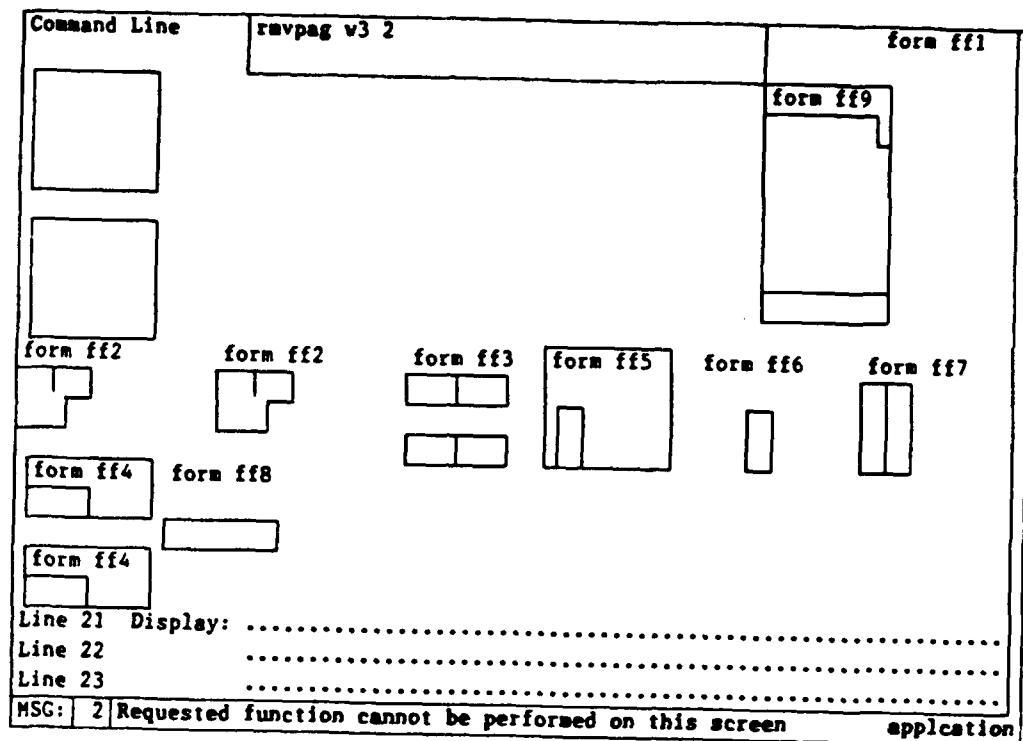


Figure 5-14a Remove Page 2 of W3

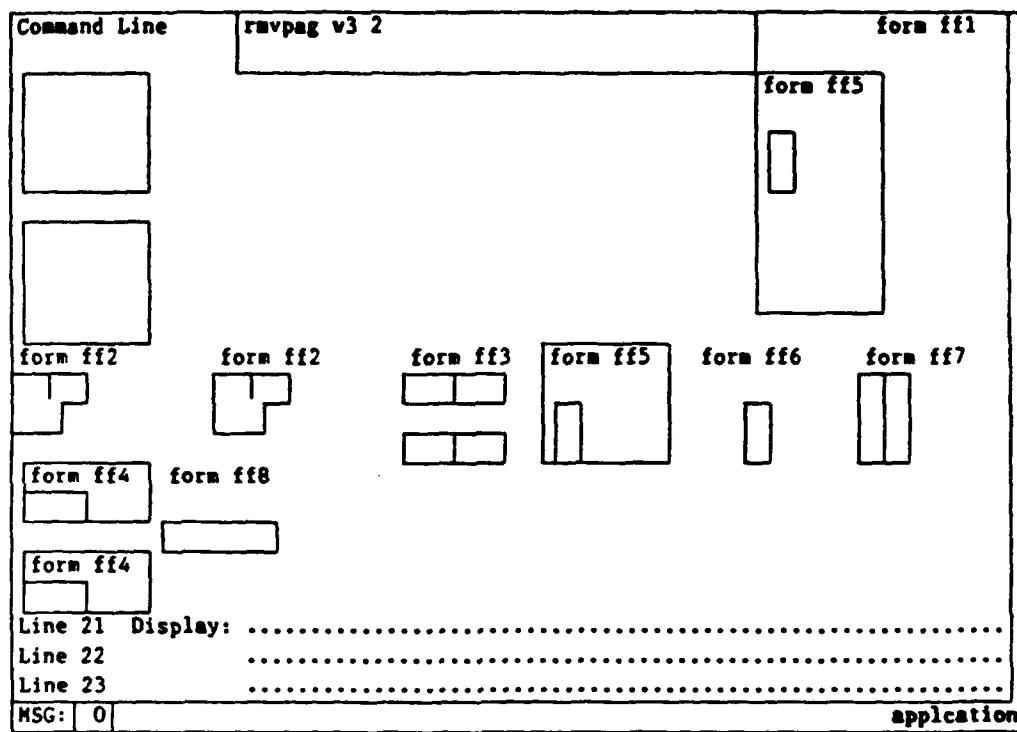


Figure 5-14b W3 with Page 2 Removed

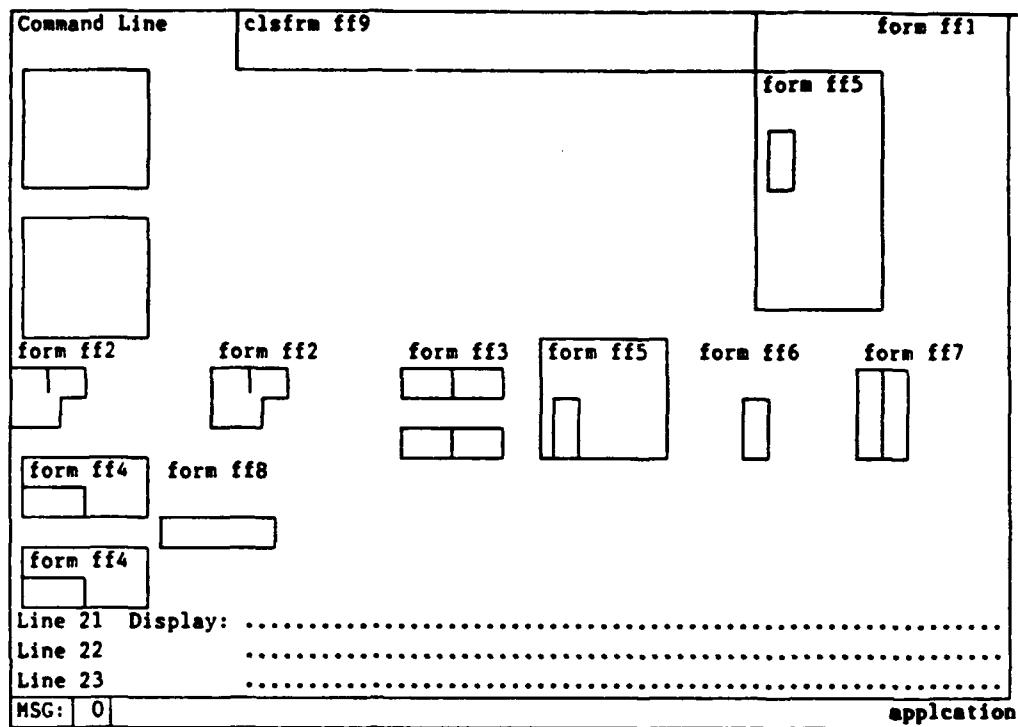


Figure 5-15a Test CLSFRM

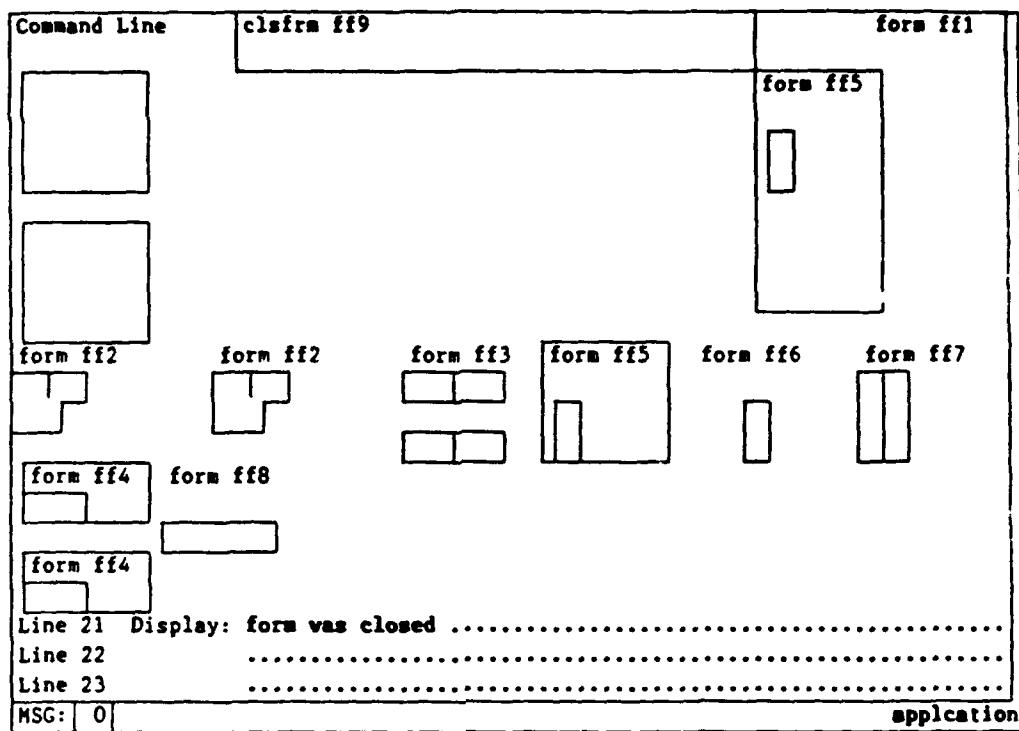


Figure 5-15b CLSFRM Result

Press <ENTER>

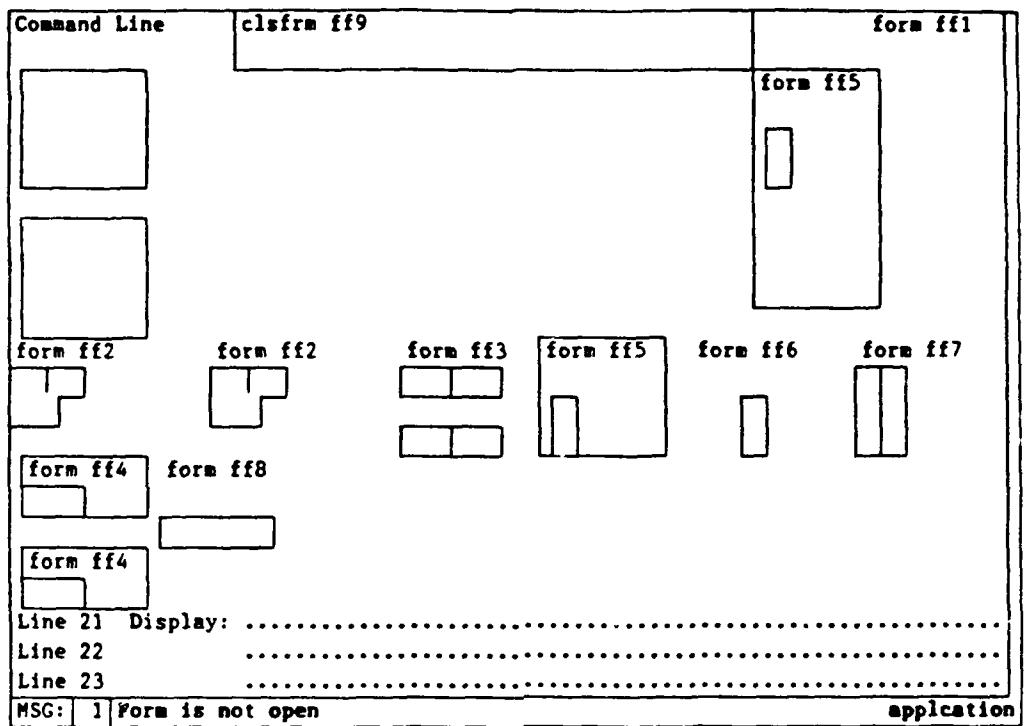


Figure 5-15c Form ff9 Already Closed

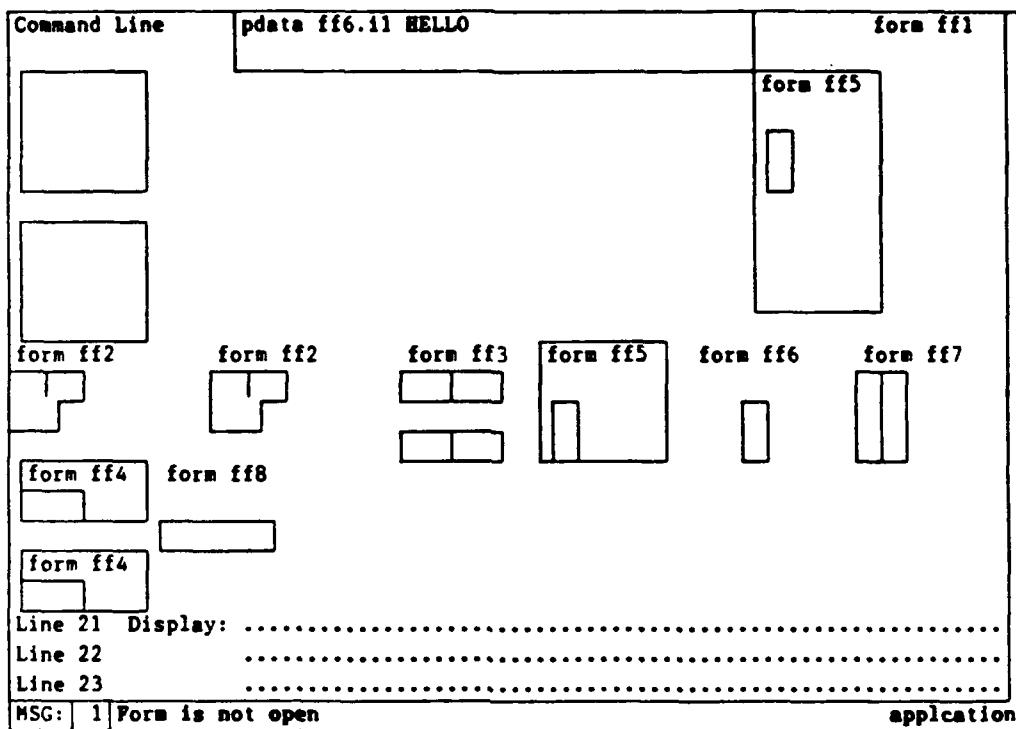


Figure 5-16a Test PDATA

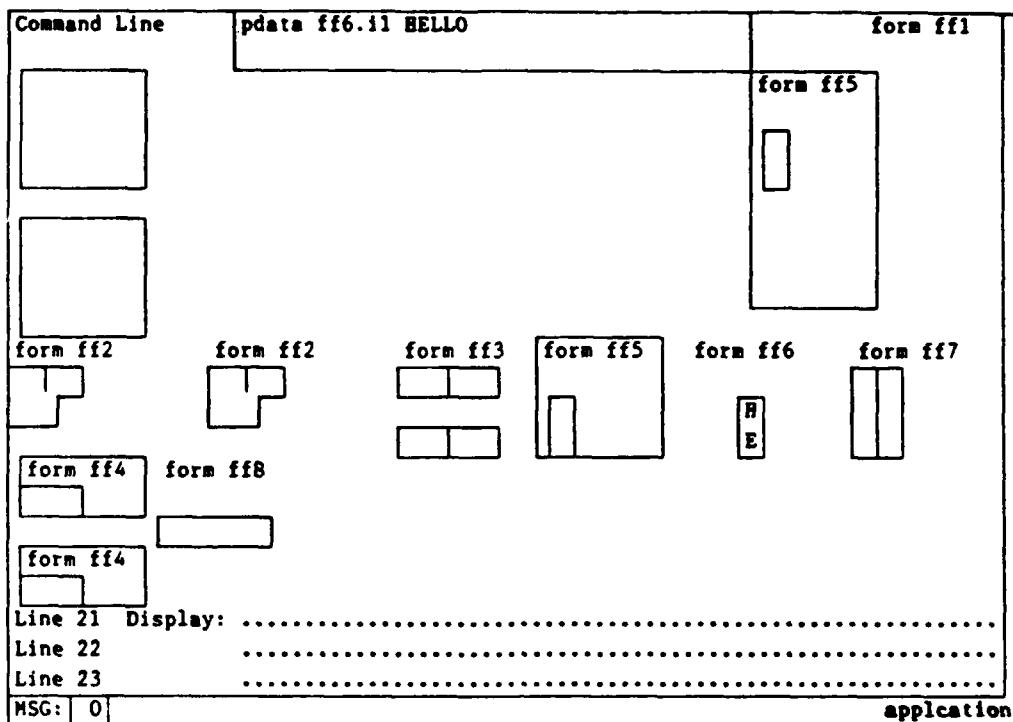


Figure 5-16b PDATA Result

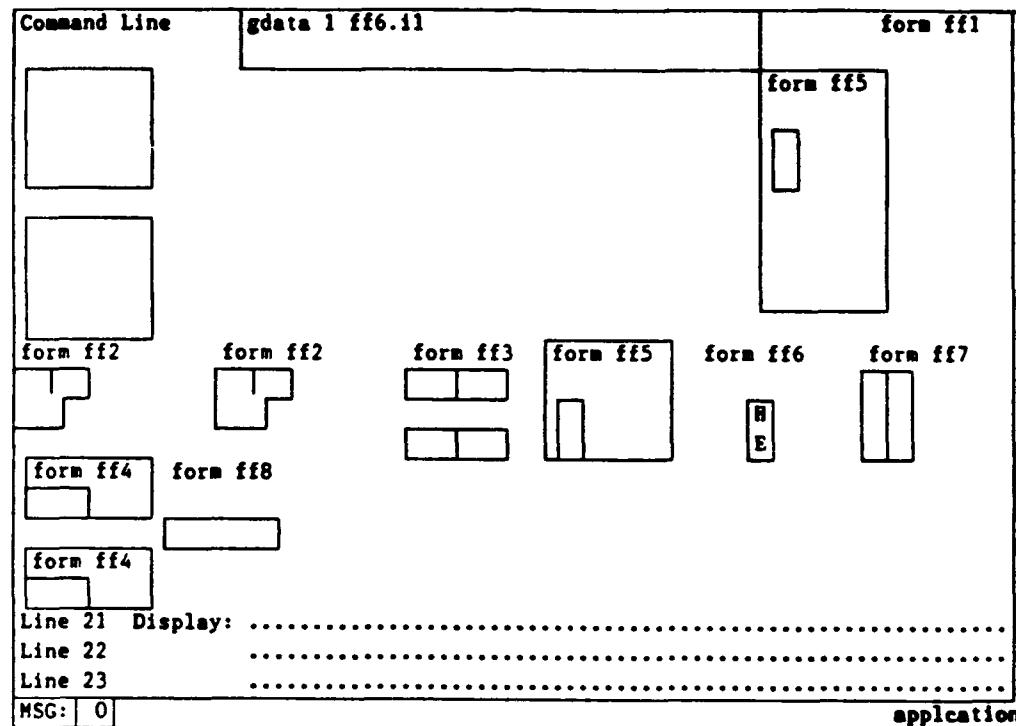


Figure 5-17a Test GDATA (Current Instance)

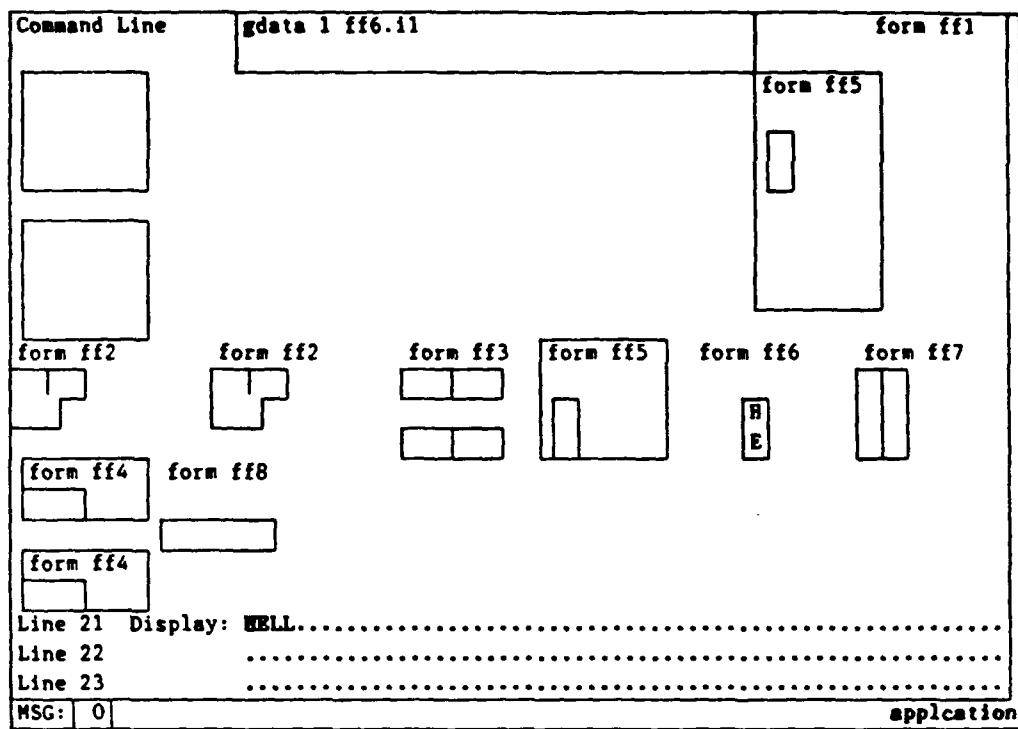


Figure 5-17b GDATA Result

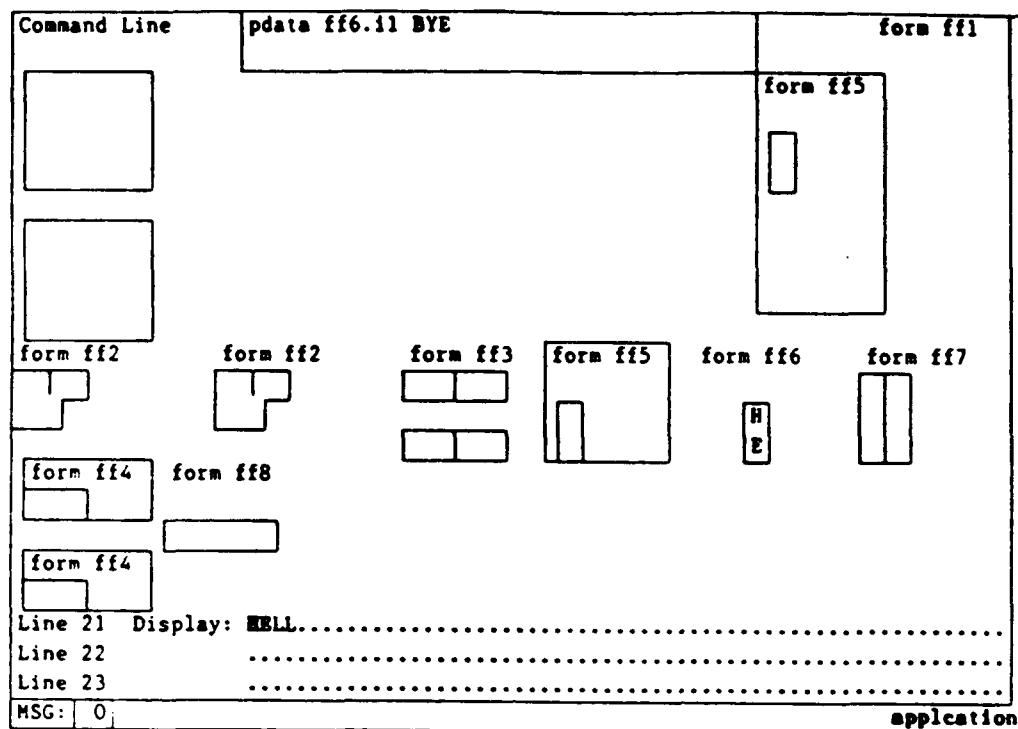


Figure 5-18a PDATA 'BYE'

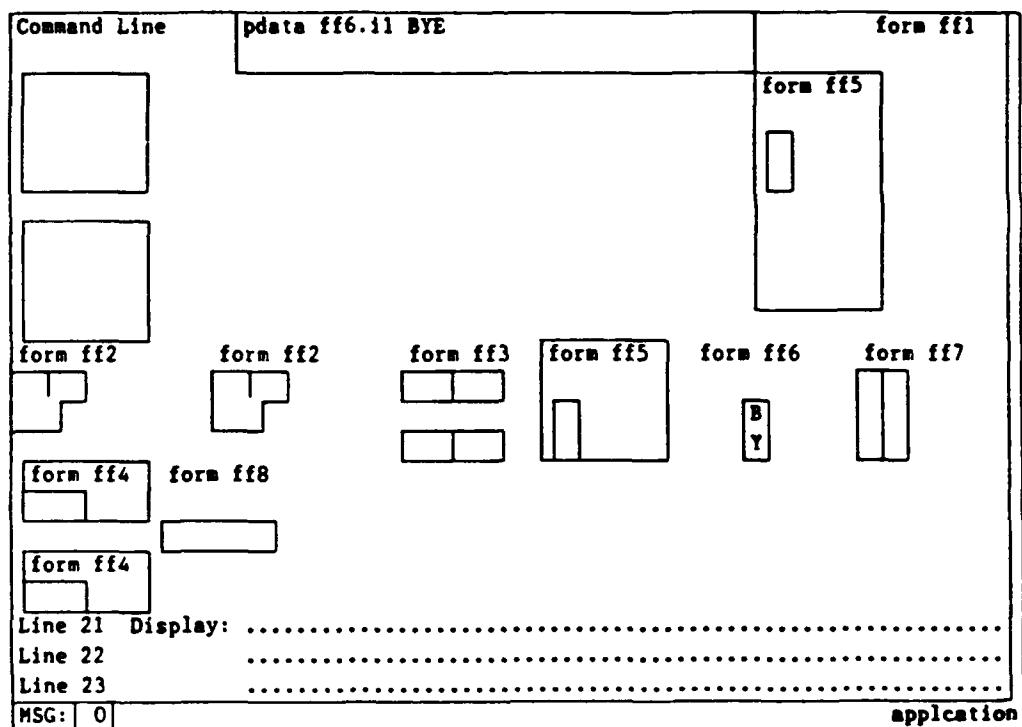


Figure 5-18b PDATA Result

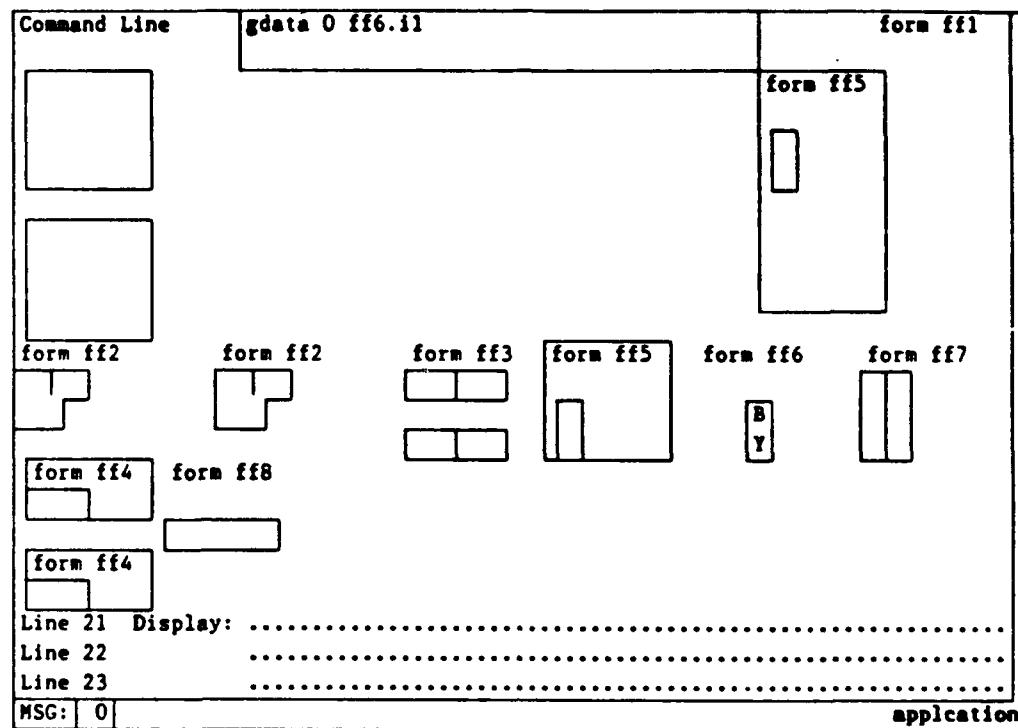


Figure 5-19a Test GDATA (Previous Instance)

Command Line	gdata 0 ff6.11	form ff1
		form ff5
	form ff2	
	form ff3	
	form ff4	form ff5
	form ff8	form ff6
		form ff7
Line 21	Display: BYE	
Line 22	.....
Line 23	.....
MSG: 0		application

Figure 5-19b GDATA Result

Command Line	gdata 0 ff6.11	form ff1
		form ff5
form ff2	form ff2	form ff3
		form ff5
form ff4	form ff8	form ff6
		form ff7
form ff4		
Line 21	Display: BYE	
Line 22	.....
Line 23	.....
MSG: 0		application

Figure 5-20a Change ff6 Value

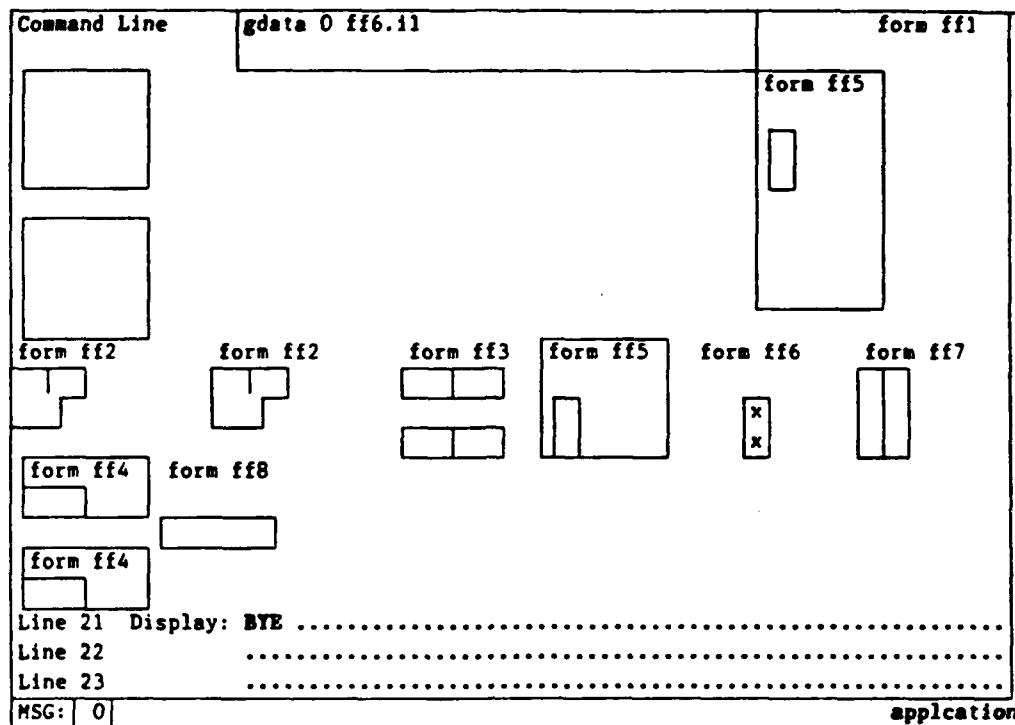


Figure 5-20b GDATA (Previous Instance)

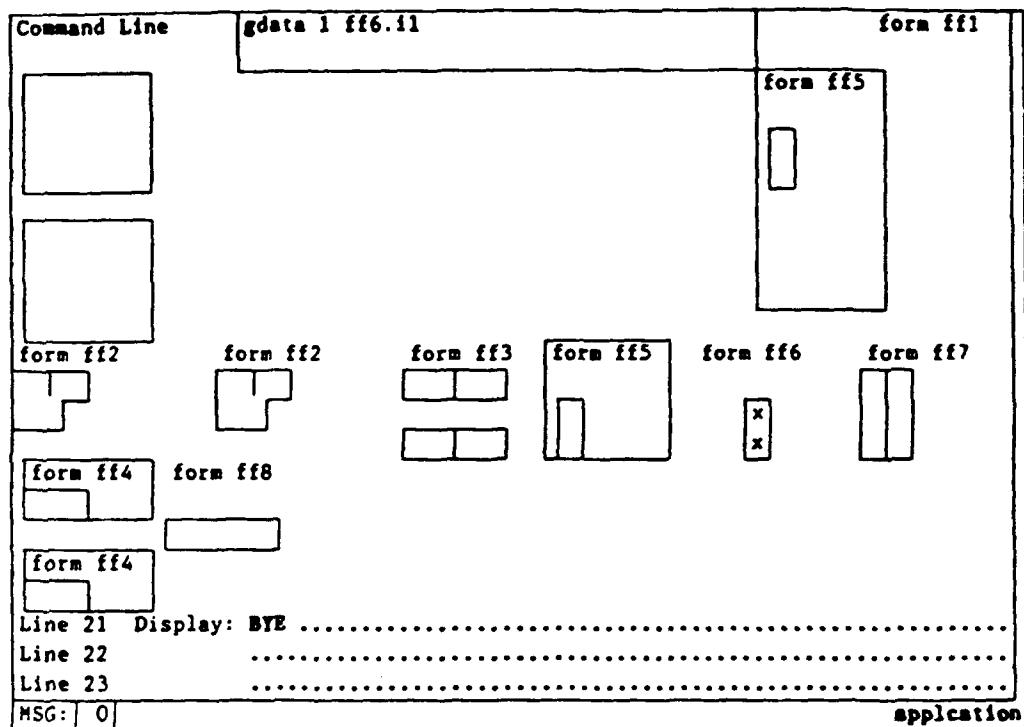


Figure 5-21a GDATA (Current Instance)

Command Line	gdata 1 ff6.il	form ff1			
		form ff5			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
form ff4					
Line 21 Display: xxE					
Line 22					
Line 23					
MSG:	0	application			

Figure 5-21b Current Value in Form ff6

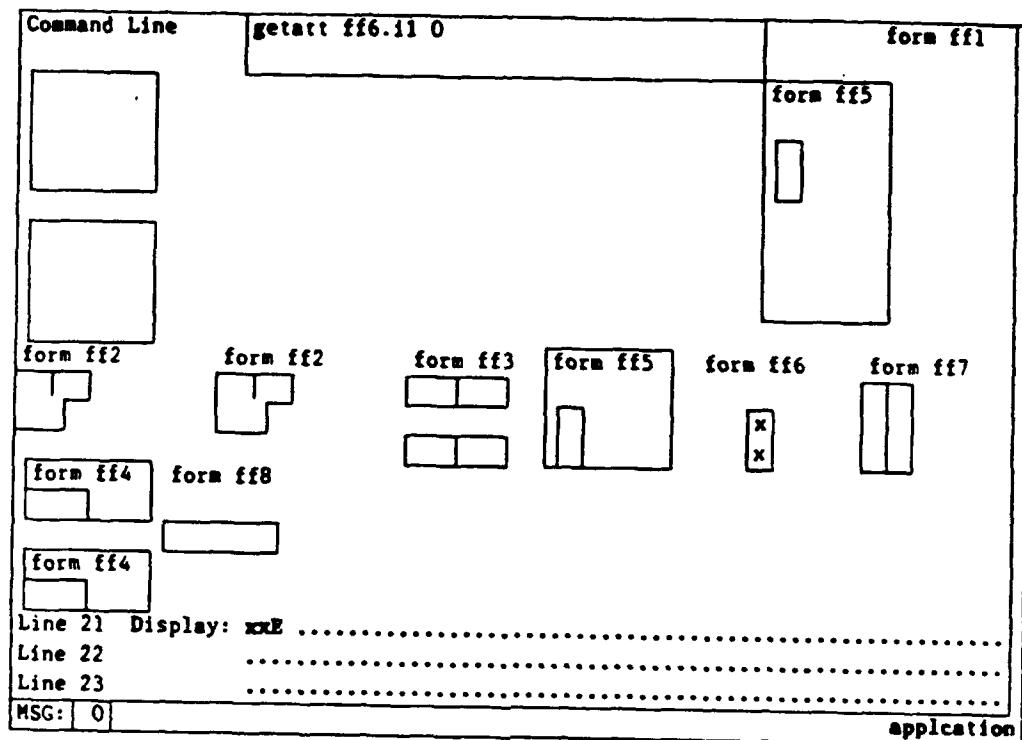


Figure 5-22a Test GETATT

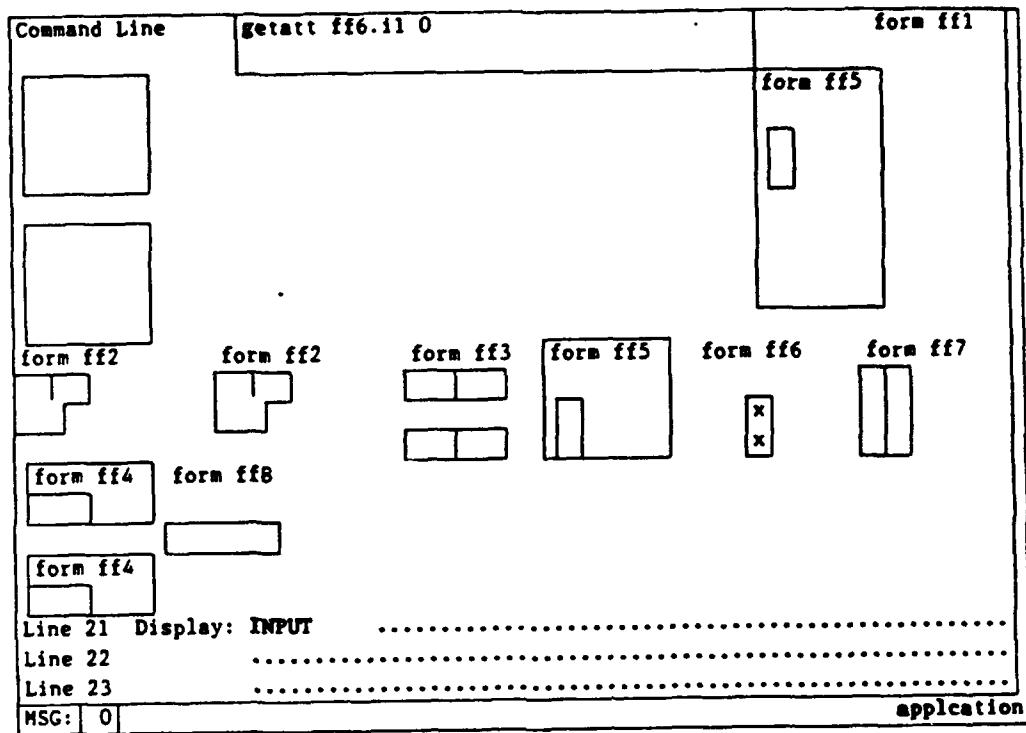


Figure 5-22b GETATT Result

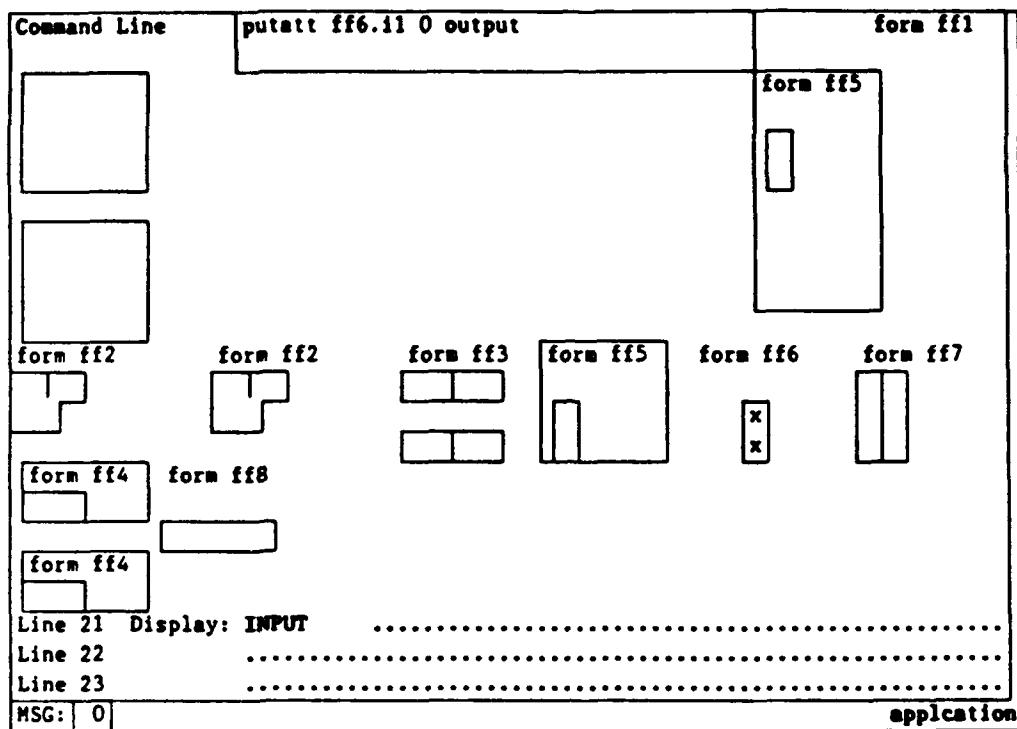


Figure 5-23a Test PUTATT (OUTPUT)

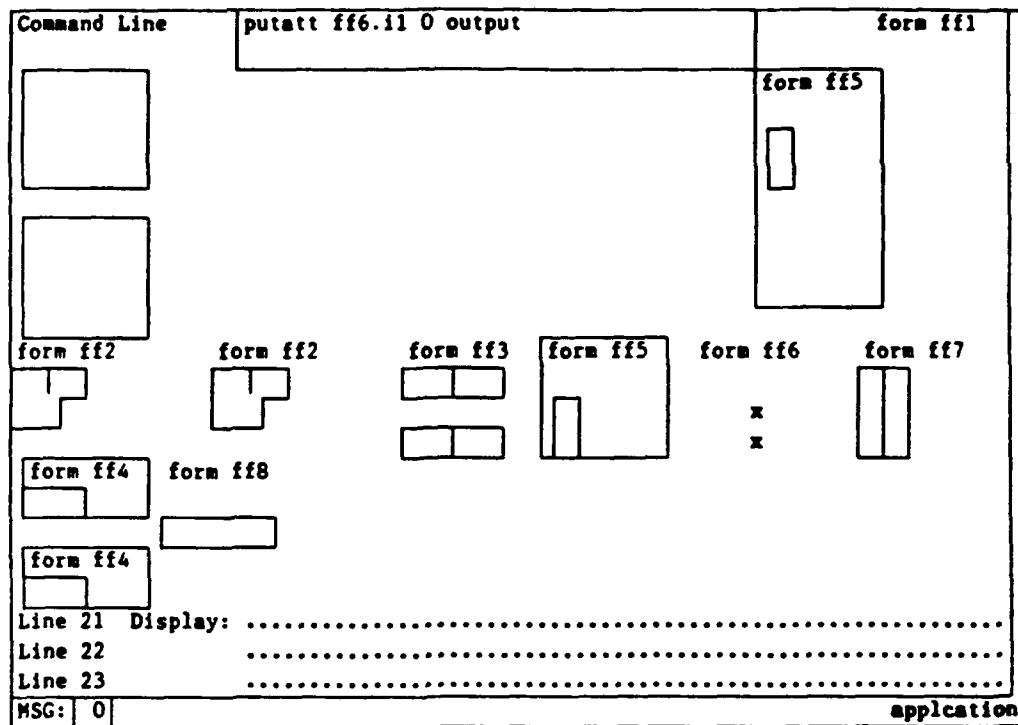


Figure 5-23b PUTATT Result

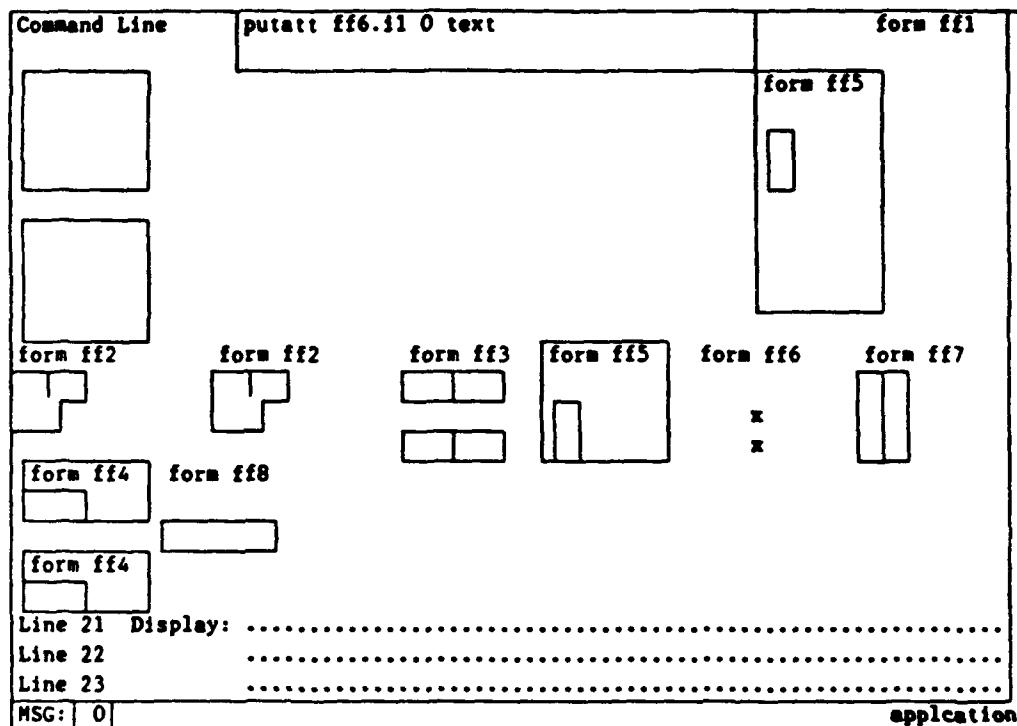


Figure 5-24a Test PUTATT (TEXT)

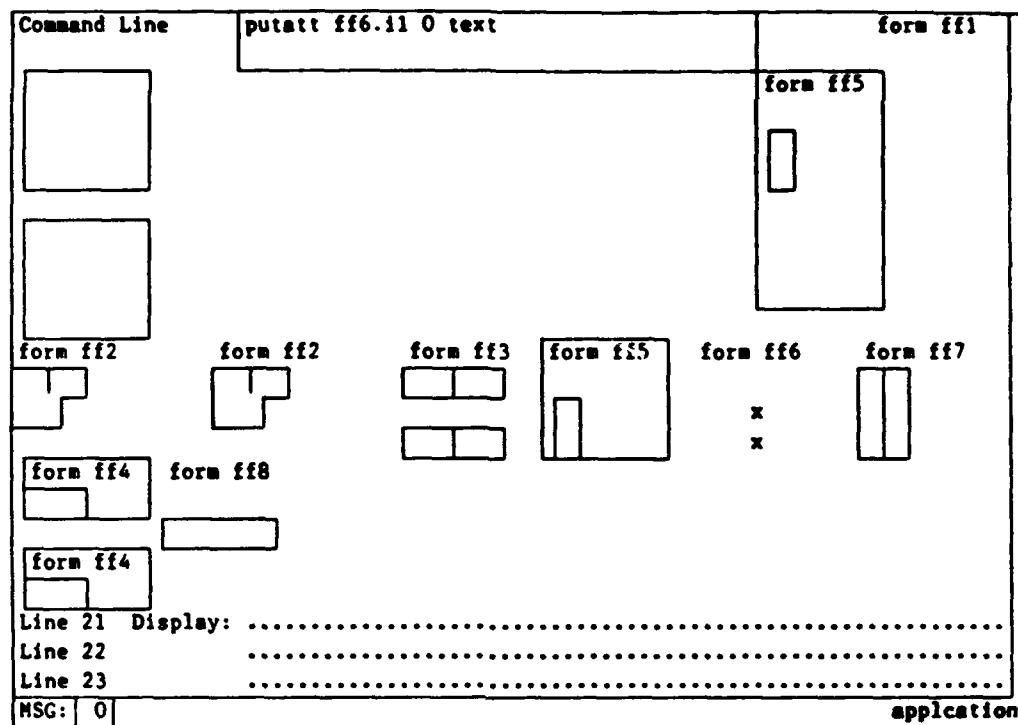


Figure 5-24b PUTATT Result

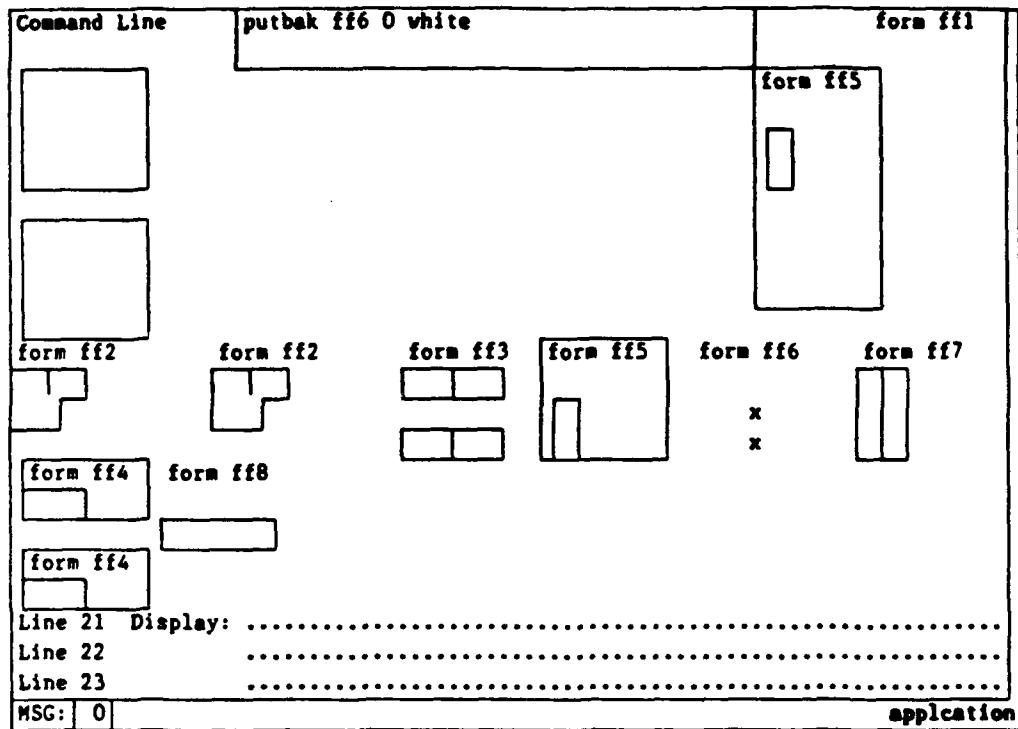


Figure 5-25a Test PUTBAK (WHITE)

Command Line	putbak ff6 0 white	form ff1
		form ff5
form ff2	form ff2	form ff3
		form ff5
form ff4	form ff8	form ff6
		form ff7
form ff4		
Line 21	Display:	
Line 22	.....
Line 23	.....
MSG: 0		application

Figure 5-25b PUTBAK Result

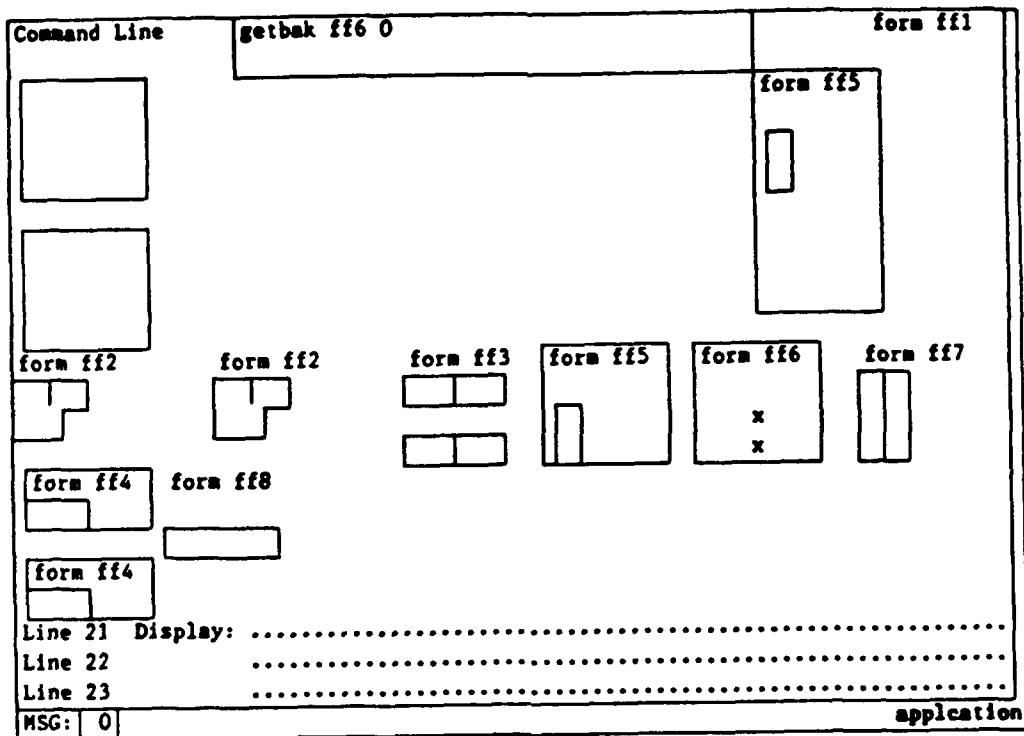


Figure 5-26a Test GETBAK

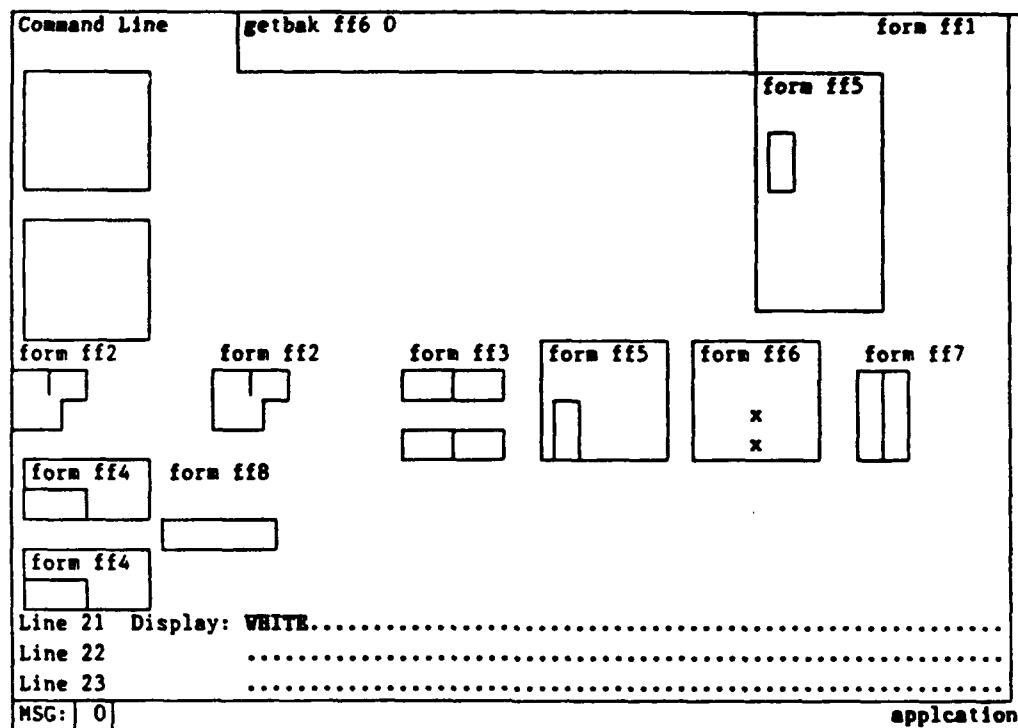


Figure 5-26b GETBAK Result

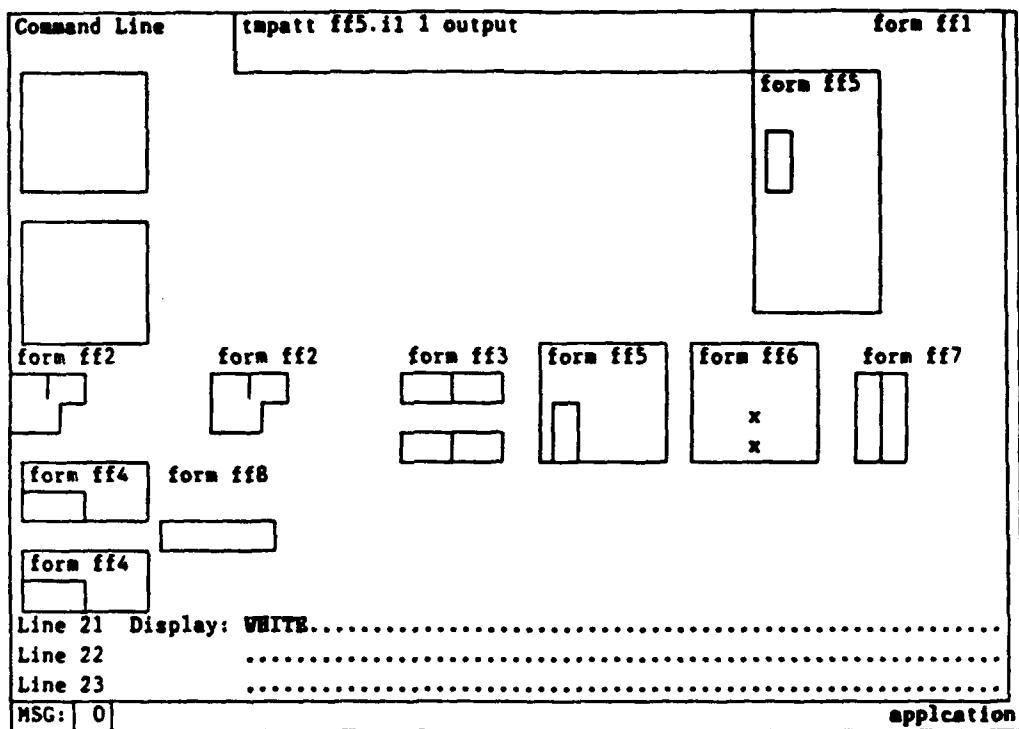


Figure 5-27a Change Attribute

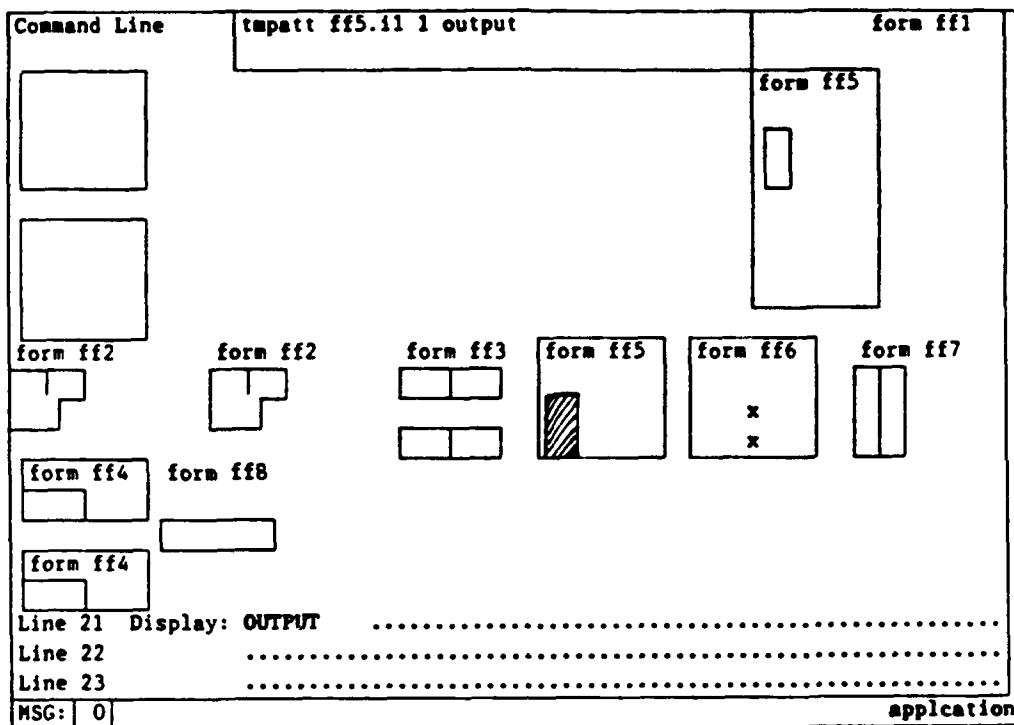


Figure 5-27b Attribute Changed

Press PF16.

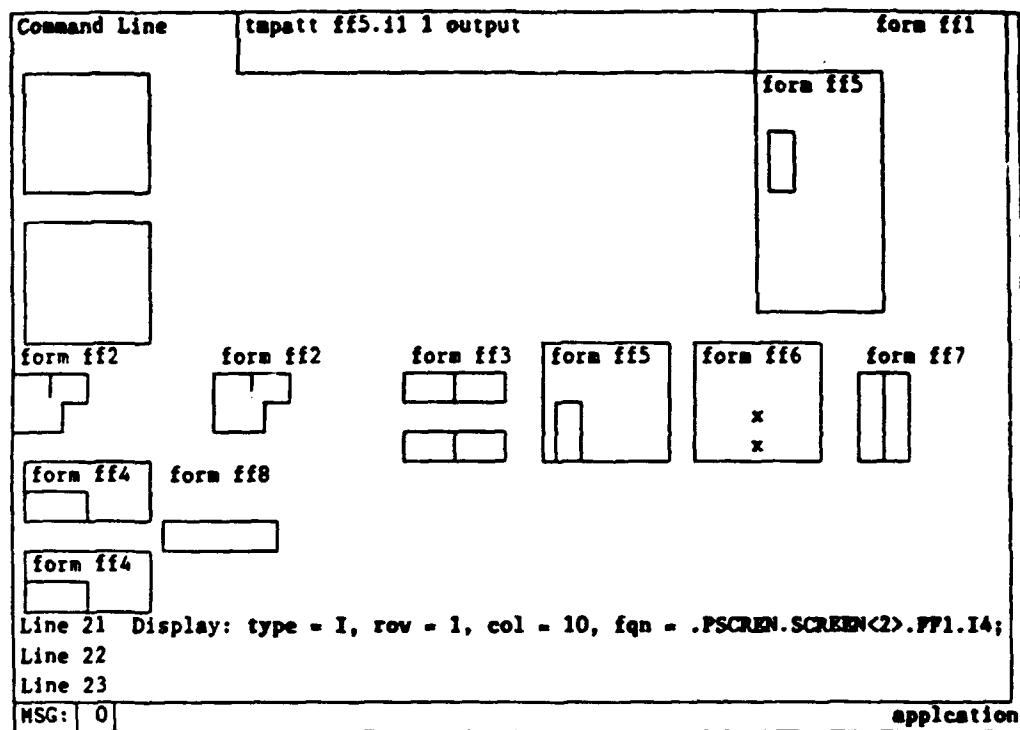


Figure 5-27c Background Attribute Restored

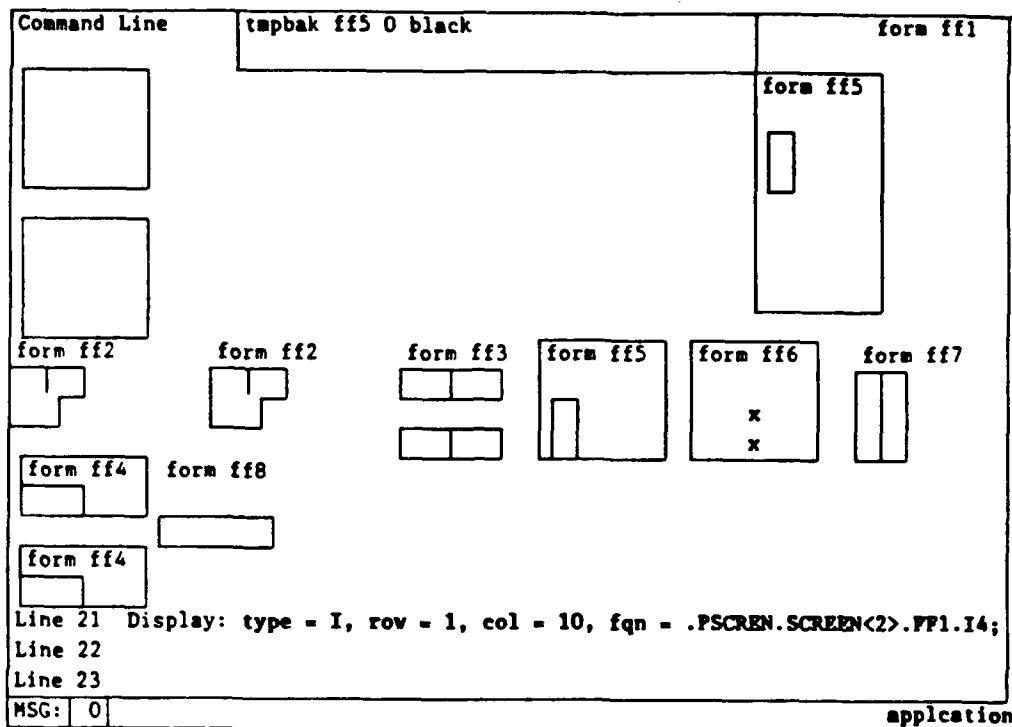


Figure 5-28a Change Form ff5 Background

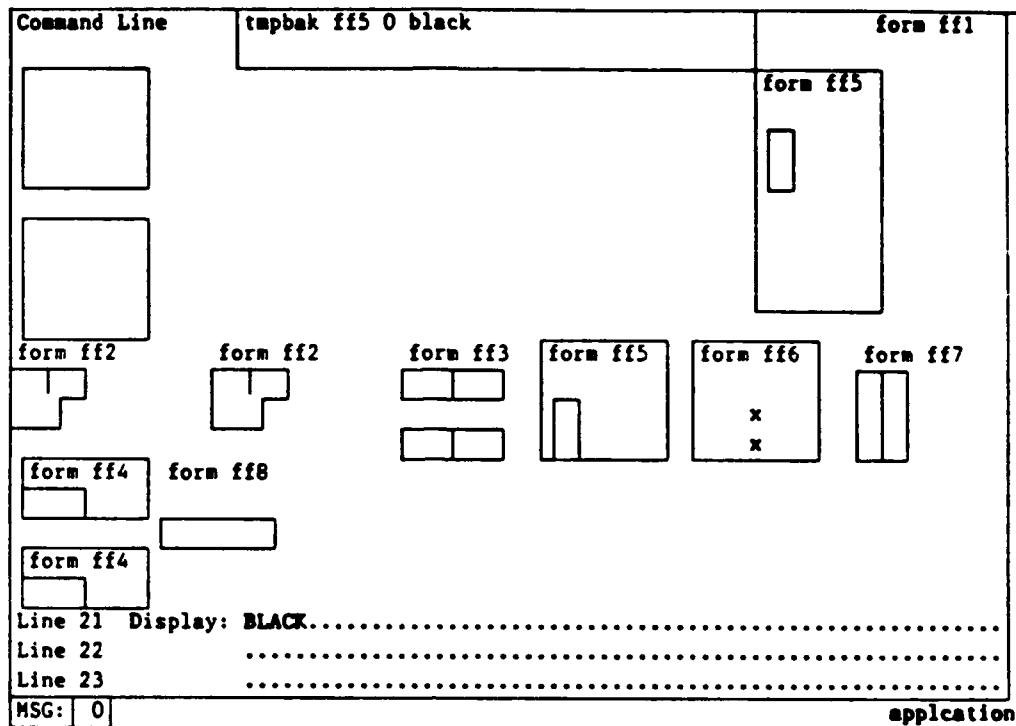


Figure 5-28b Form ff5 Background Black

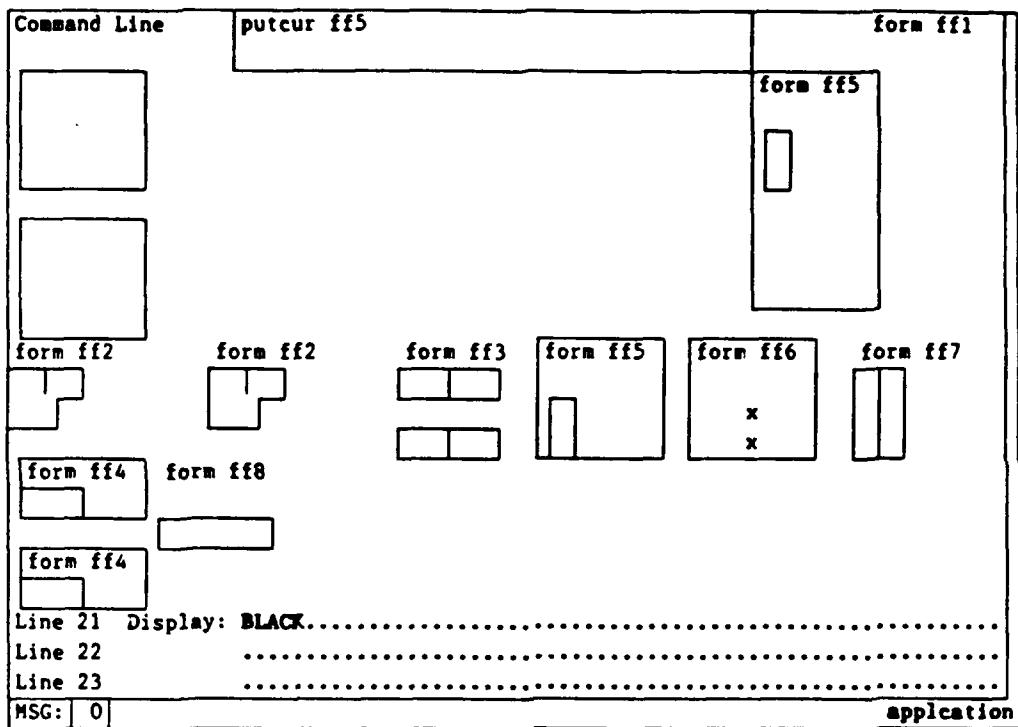


Figure 5-29a Test PUTCUR

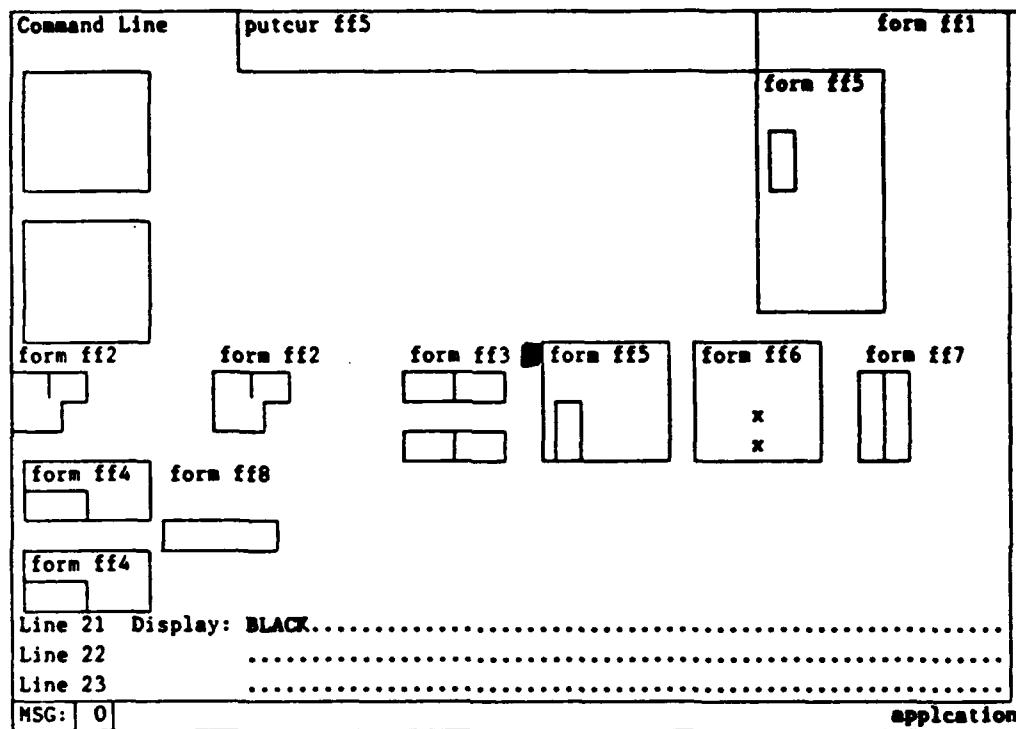


Figure 5-29b PUTCUR Result

Press PF16.

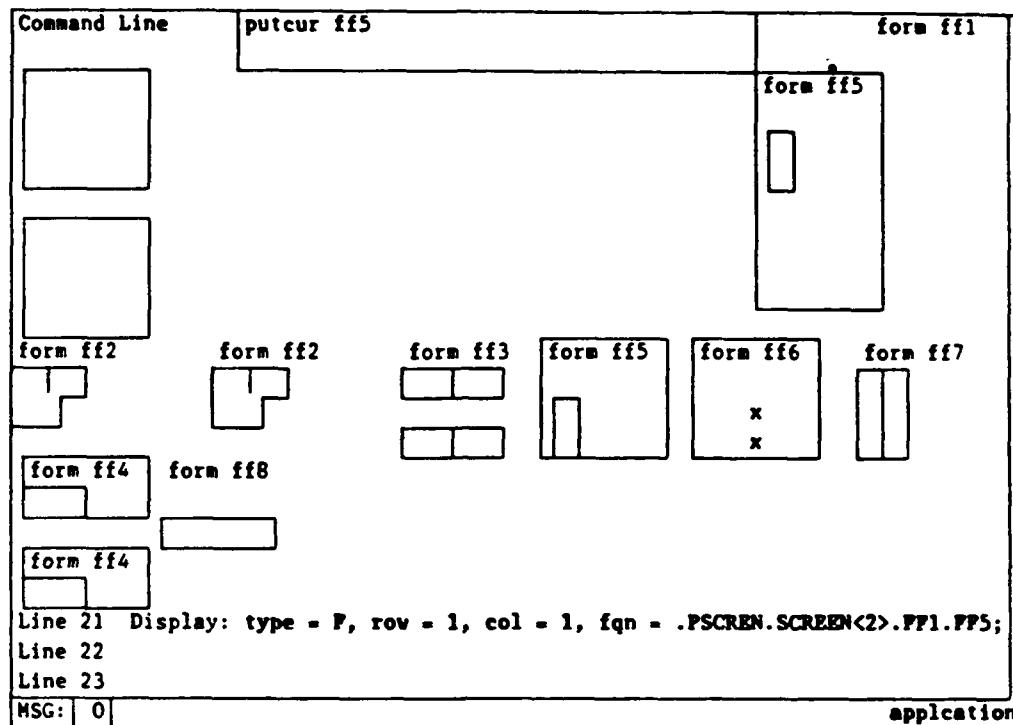


Figure 5-29c Current Cursor Position

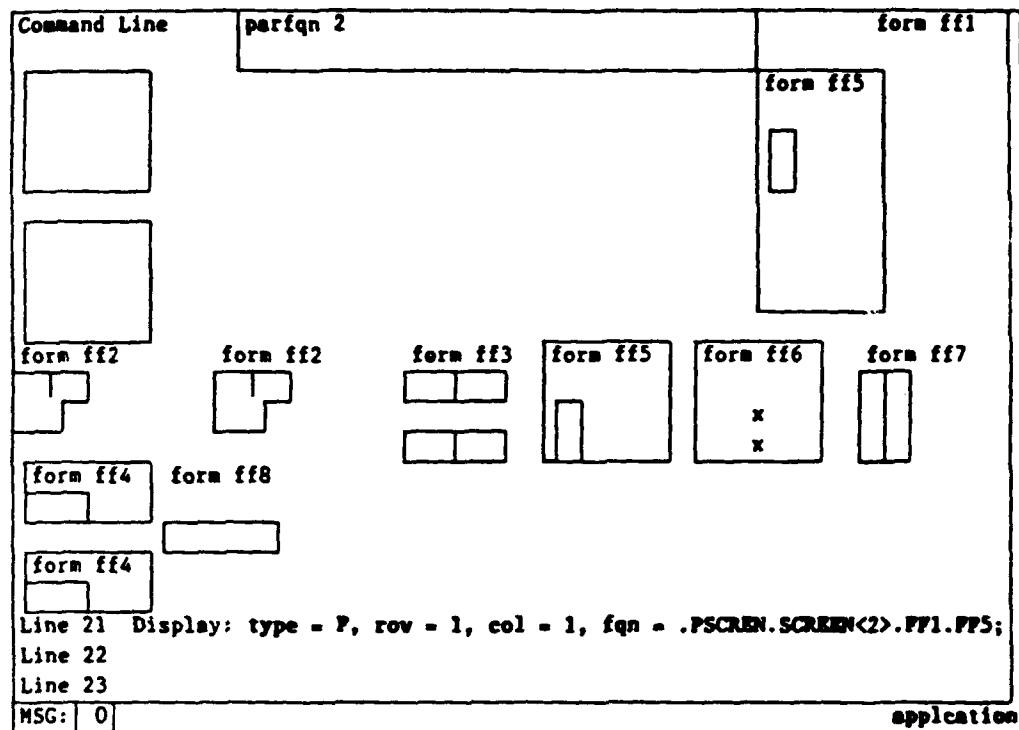


Figure 5-30a Test PARFQN

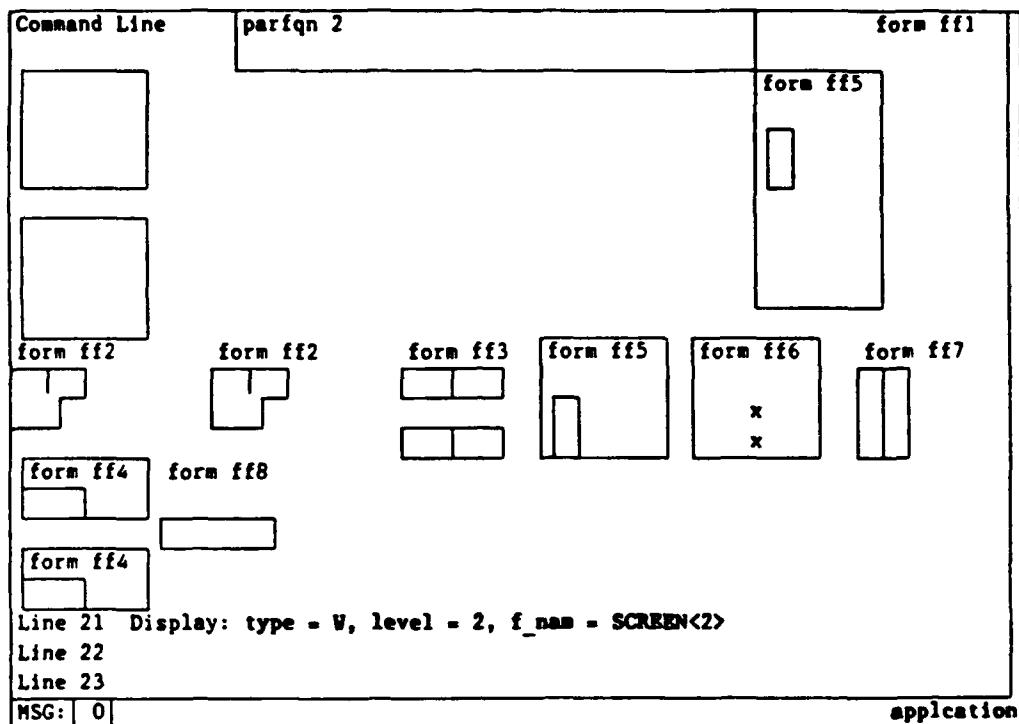


Figure 5-30b PARFQN Result

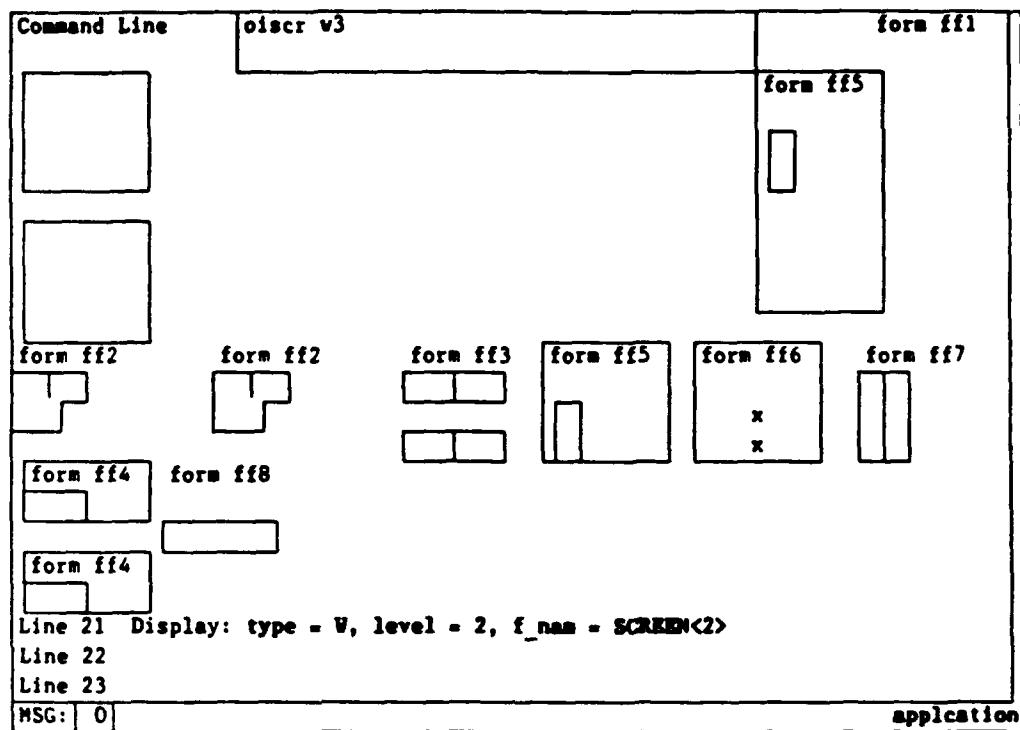


Figure 5-31a Test Terminal in Terminal

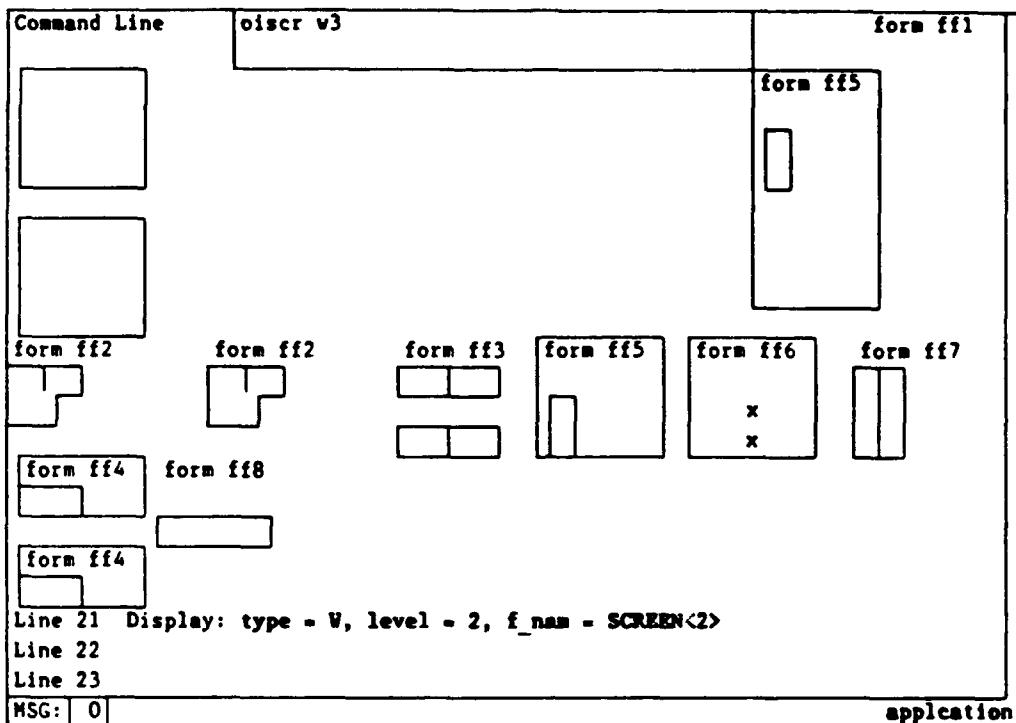


Figure 5-31b Test Screen

May only tab to items in Form ff5 and the MSG item.

Press <ENTER>.

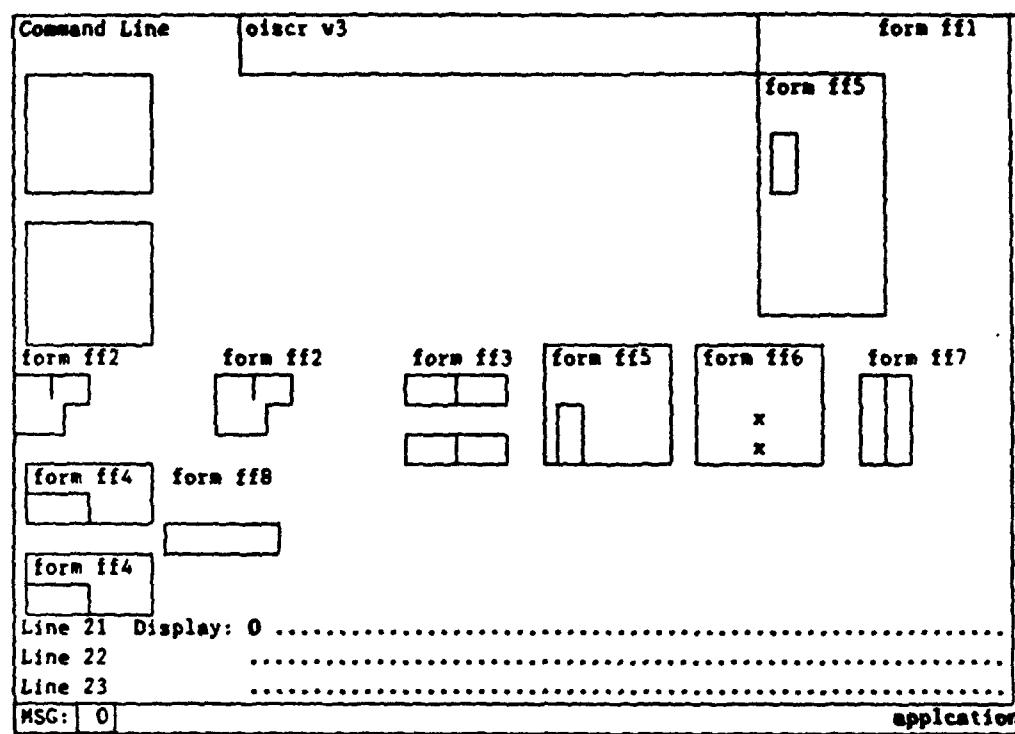


Figure 5-31c Normal Screen

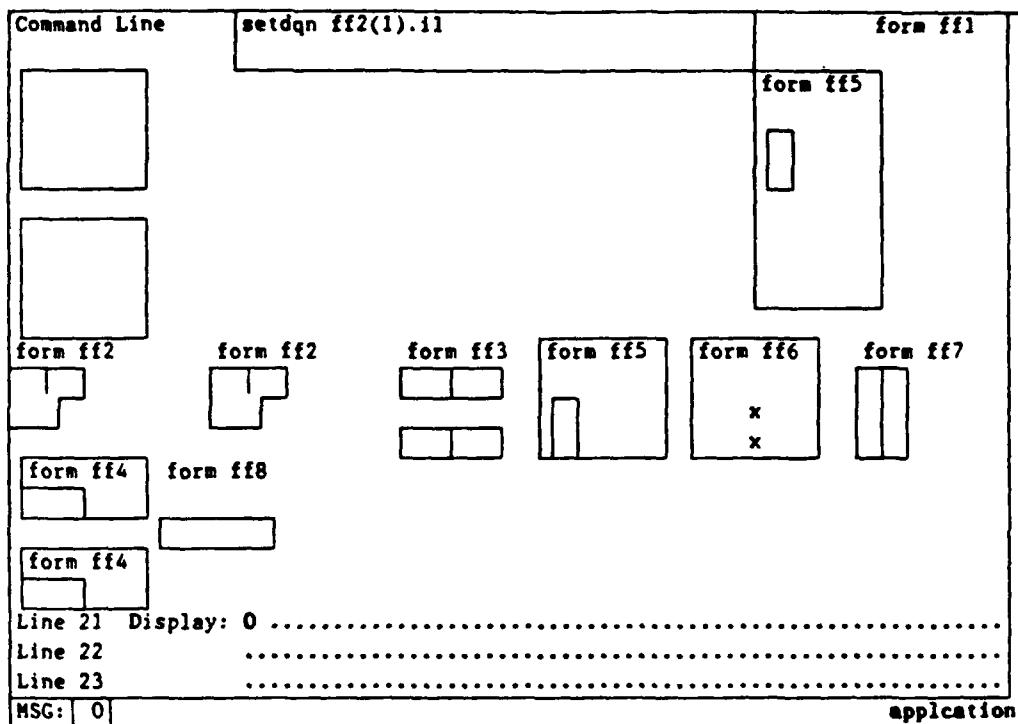


Figure 5-32a Test SETDQN

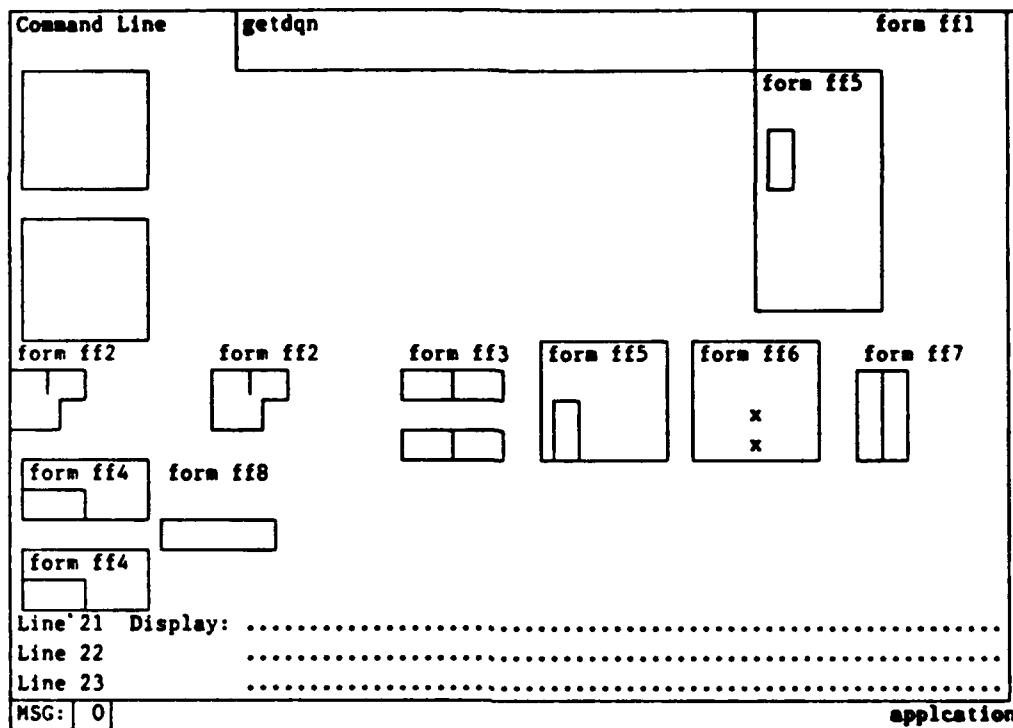


Figure 5-32b Test GETDQN

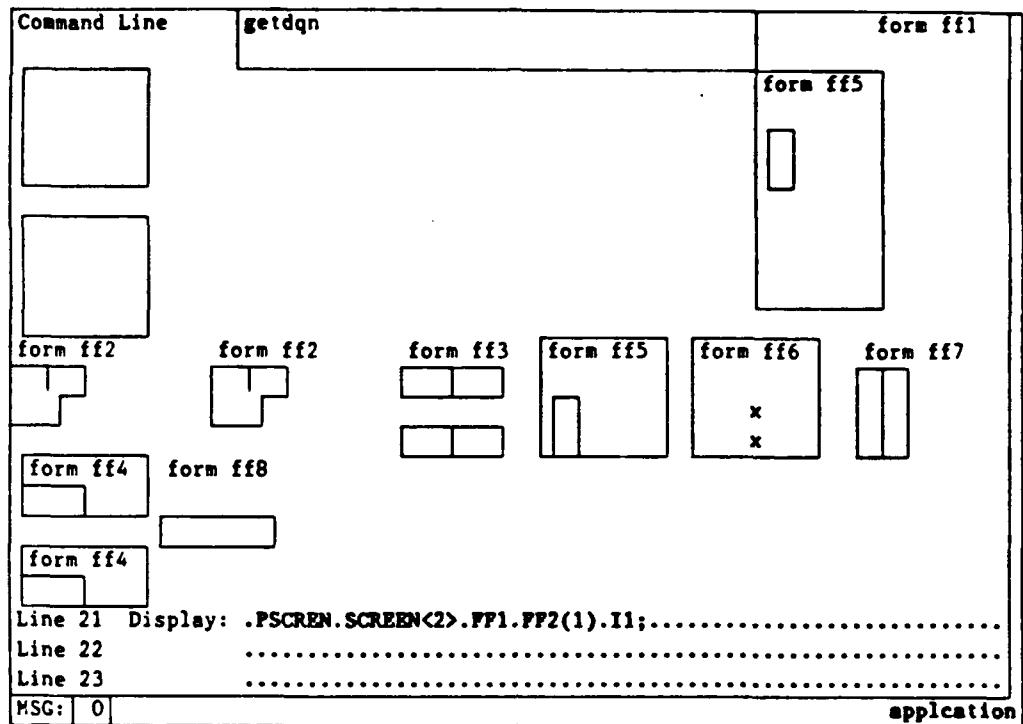


Figure 5-32c GETDQN Result

Command Line	pdata i1 123456	form ff1			
		form ff5			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8			x x	
Line 21 Display: .PSCREEN SCREEN<2>.PF1.PF2(1).I1;.....					
Line 22					
Line 23					
MSG: 0	application				

Figure 5-32d Enter Data

Command Line	pdata i1 123456	form ff1
<input type="text"/>		<input type="text"/>
<input type="text"/>		<input type="text"/>
form ff2	form ff2	form ff5
12|34	<input type="text"/>	<input type="text"/>
form ff4	form ff8	form ff3
<input type="text"/>	<input type="text"/>	<input type="text"/>
form ff4		<input type="text"/>
<input type="text"/>		<input type="text"/>
Line 21 Display:		
Line 22		
Line 23		
MSG: 0		application

Figure 5-32e Data Entered

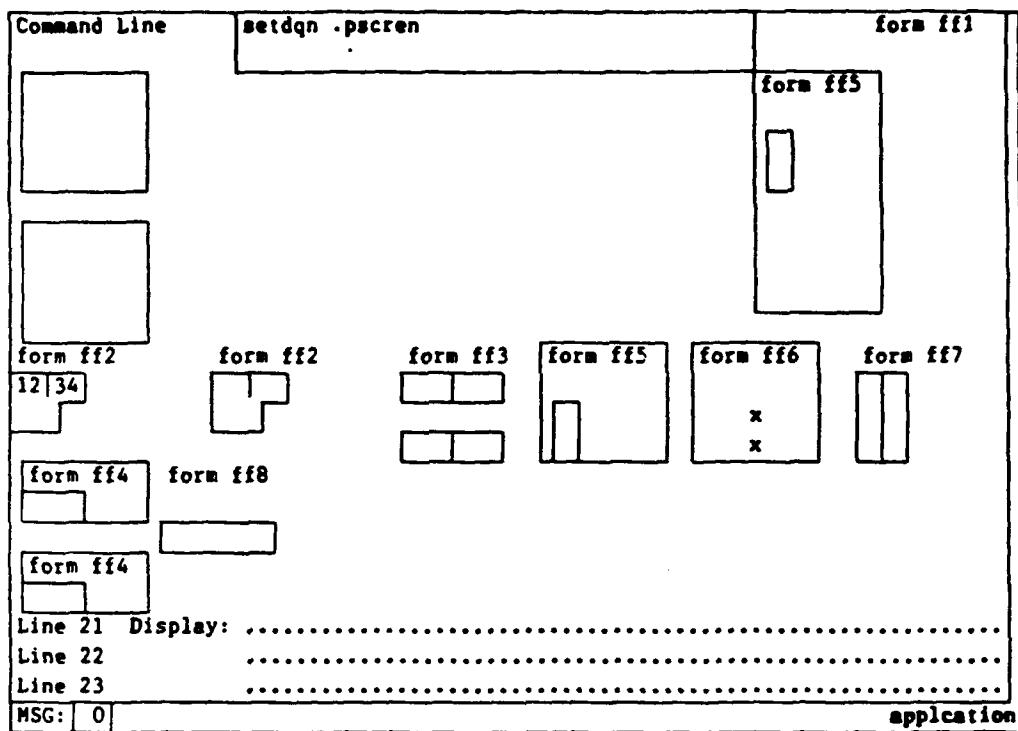


Figure 5-32f Reset Default Qualified Name

Command Line	pdata i1 123456	form ff1			
		form ff5			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
12 34				x	
form ff4	form ff8			x	
form ff4					
Line 21	Display:				
Line 22	.....			
Line 23	.....			
MSG: 0					application

Figure 5-32g Enter Data

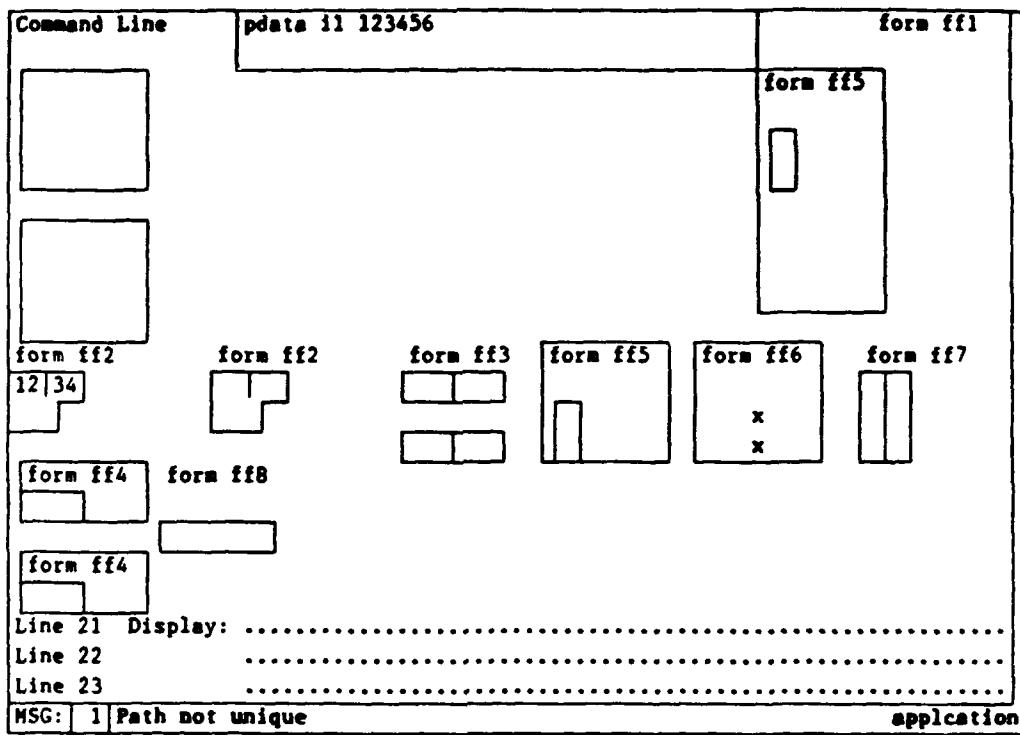


Figure 5-32h Path Not Unique

Command Line	pdata ff7 ABCDEFGHIJKLMNOPQRSTUVWXYZ	form ff1
		form ff5
form ff2	form ff2	form ff3
12|34		
form ff4	form ff8	form ff5
form ff4		form ff6
		x
		x
Line 21	Display:	form ff7
Line 22	.....
Line 23	.....
MSG: 1	Path not unique	application

Figure 5-33a Enter Test Data

Command Line	pdata ff7 ABCDEFGHIJKLMNOPQRSTUVWXYZ	form ff1
<input type="text"/>		<input type="text"/>
<input type="text"/>		<input type="text"/>
		form ff5
form ff2	form ff2	form ff3
12|34		
	<input type="text"/>	<input type="text"/>
form ff4	form ff8	form ff5
<input type="text"/>	<input type="text"/>	<input type="text"/>
form ff4		form ff6
<input type="text"/>		x
		x
Line 21	Display:	form ff7
Line 22	.....	A B
Line 23	.....	E F
MSG: 0		I J
		application

Figure 5-33b Test Data Entered

Press <MODE> key to get into Scrl1/Page mode

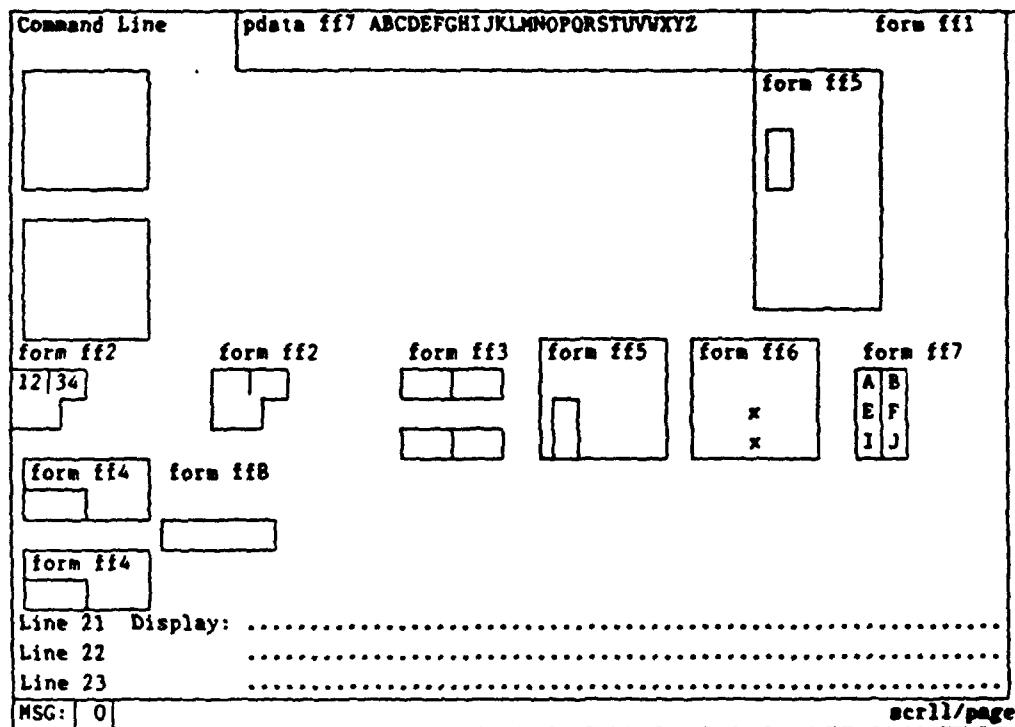


Figure 5-34a Scroll Up

Position cursor on 'A' in form ff7.

Press PF5 <SCROLL UP>.

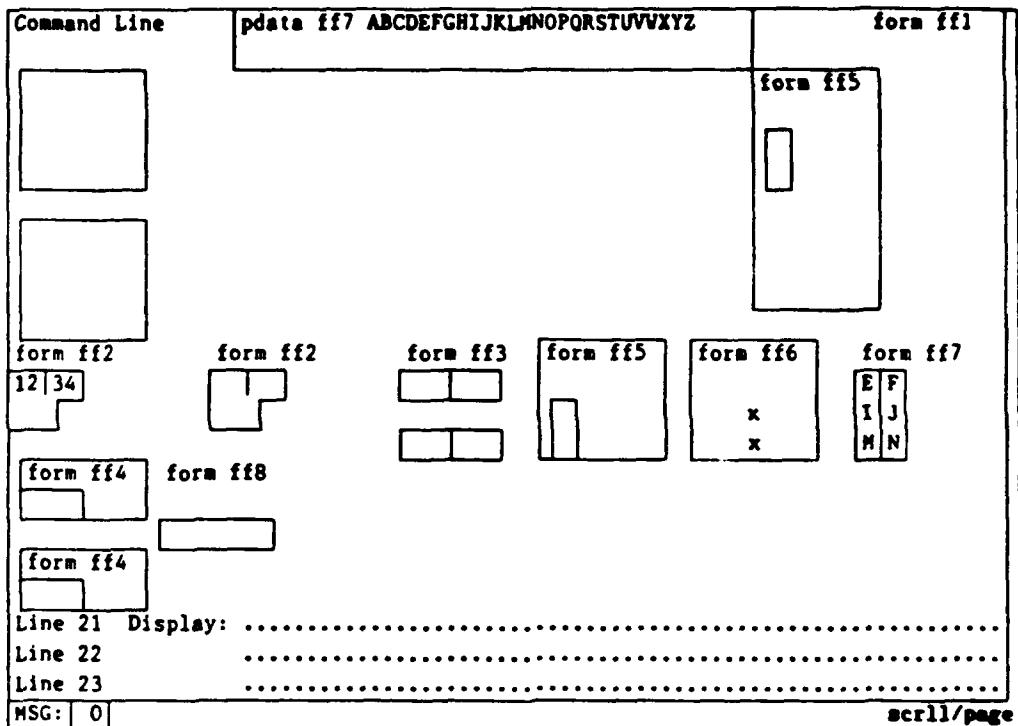


Figure 5-34b Scroll Up Result

Press PF6 <SCROLL DOWN>.

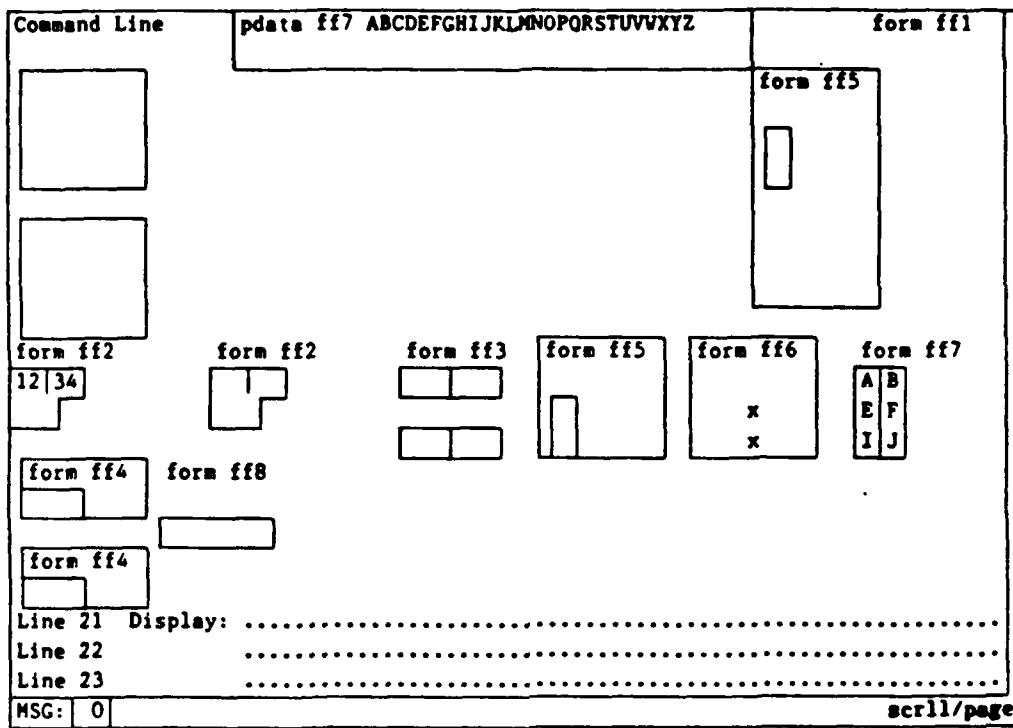


Figure 5-34c Scroll Down Result

Press PF7 <SCROLL LEFT>.

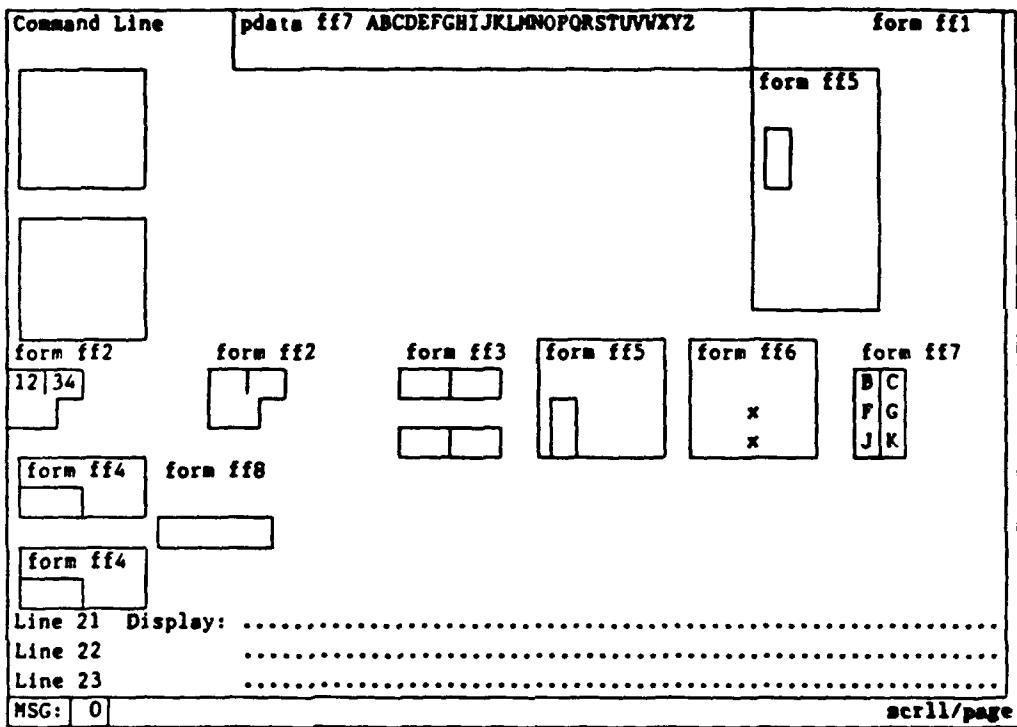


Figure 5-34d Scroll Left Result

Press PF8 <SCROLL RIGHT>.

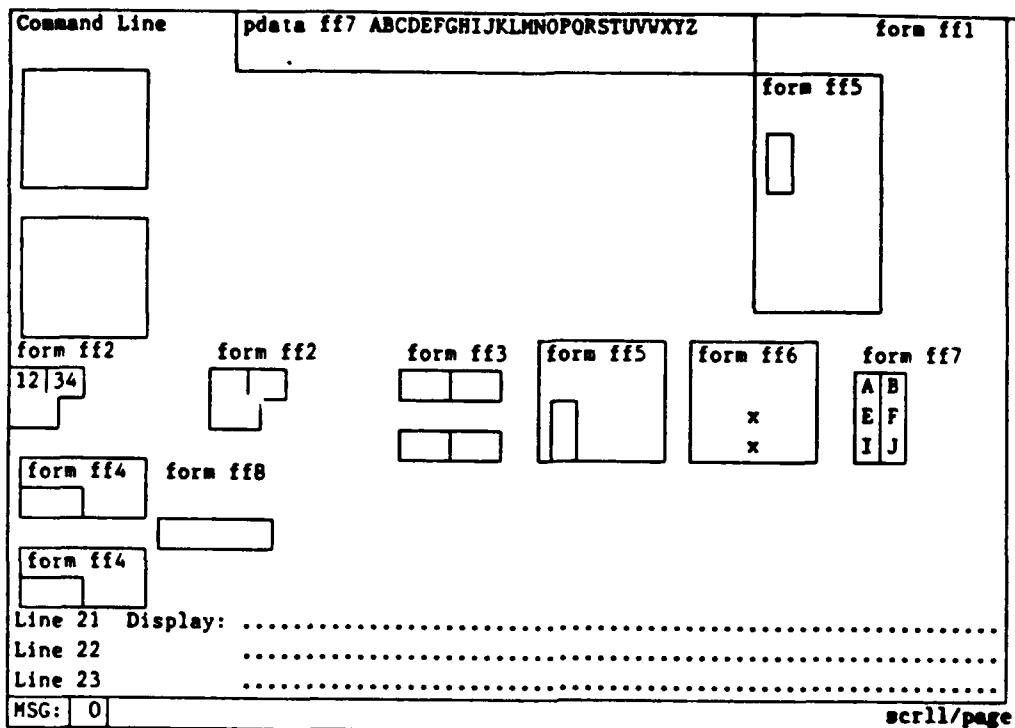


Figure 5-34e Scroll Right Result

Press PF9 <PAGE UP>.

Command Line	pdata ff7 ABCDEFGHIJKLMNOPQRSTUVWXYZ	form ff1
		form ff5
form ff2 12|34	form ff2	form ff3
form ff4	form ff8	form ff5
form ff4		form ff6
Line 21 Display:		form ff7
Line 22		
Line 23		
MSG: 0		scroll/page

Figure 5-34f Page Up Result

Press PF10 <PAGE DOWN>.

Command Line	pdata ff7 ABCDEFGHIJKLMNOPQRSTUVWXYZ	form ff1
		form ff5
form ff2 12|34	form ff2	form ff3
		form ff5
form ff4	form ff8	form ff6
form ff4		form ff7 A B E F I J
Line 21 Display:		
Line 22		
Line 23		
MSG: 0		scroll/page

Figure 5-34g Page Down Result

Press PF11 <PAGE LEFT>.

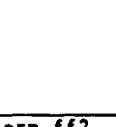
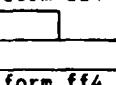
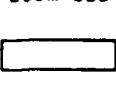
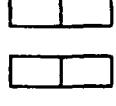
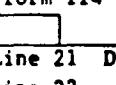
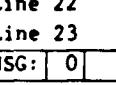
Command Line	pdata ff7 ABCDEFGHIJKLMNOPQRSTUVWXYZ	form ff1
		
		
form ff2 12 34	form ff2	form ff3
		
form ff4	form ff8	form ff5
		form ff6
form ff4		x x
Line 21 Display:	Line 22	form ff7
Line 23		C D G H K L
MSG: 0		scroll/page

Figure 5-34h Page Left Result

Press PF12 <PAGE RIGHT>.

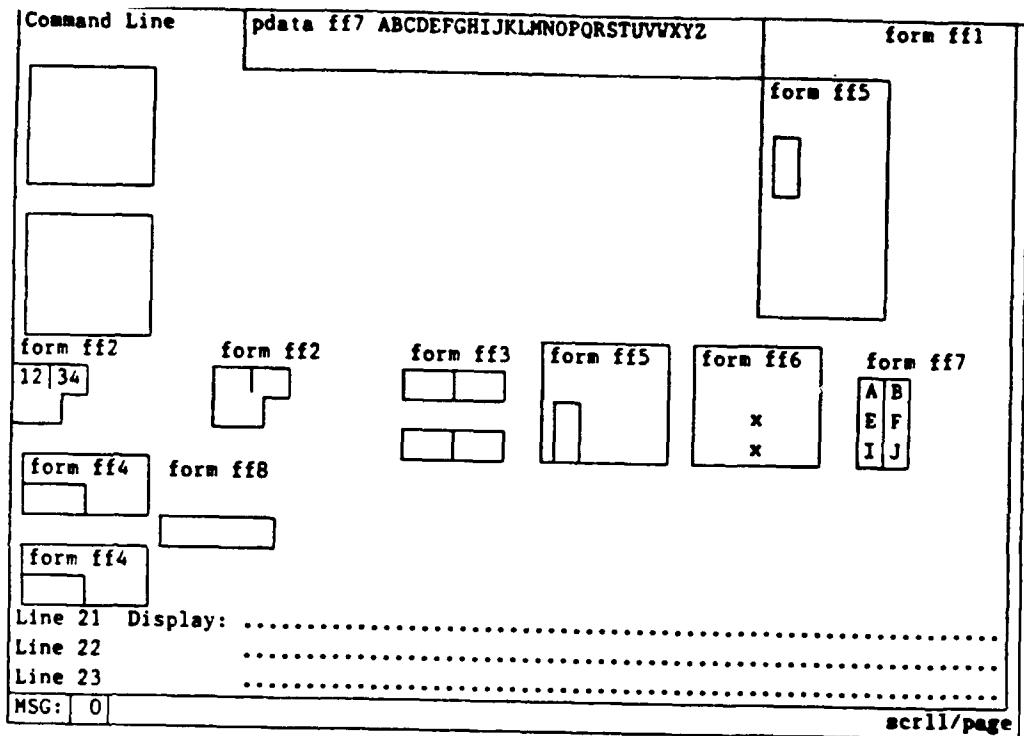


Figure 5-34i Page Right Result

Press PF11 <PAGE LEFT>.

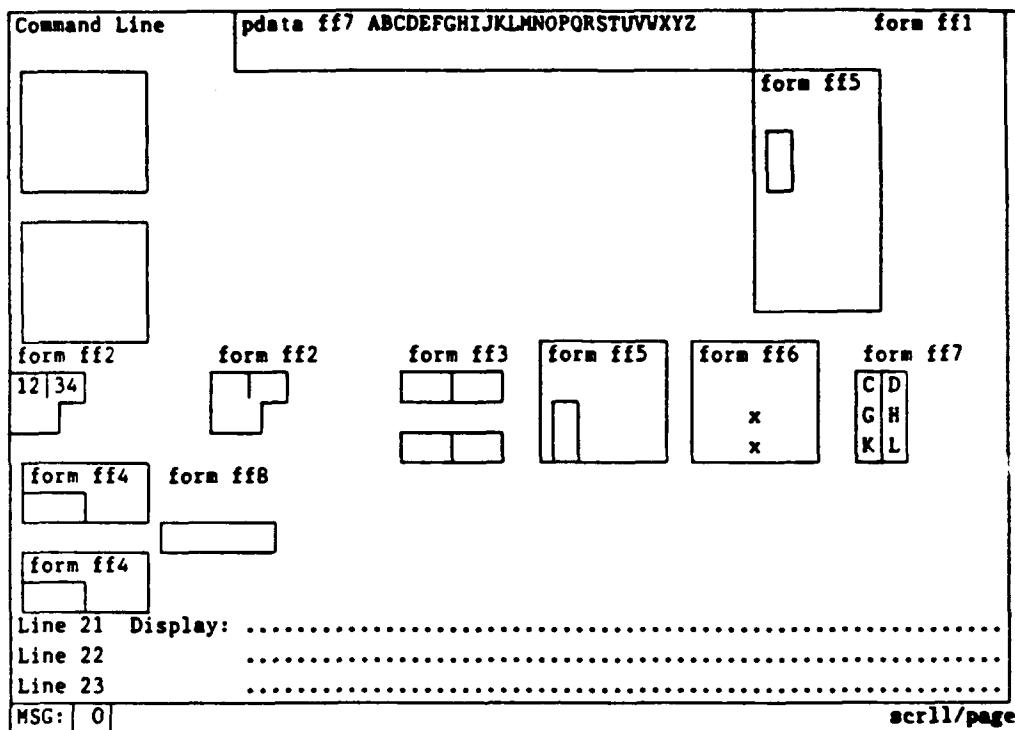


Figure 5-34j Test PMSGLC

Press PF11 <PAGE LEFT>.

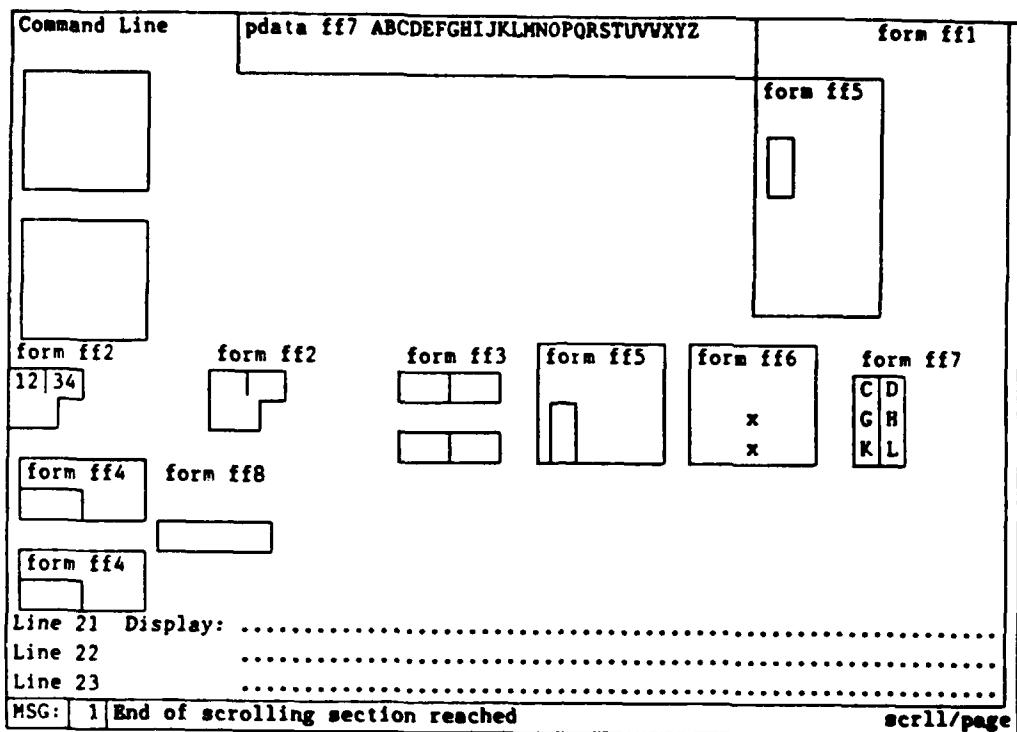


Figure 5-34k PMSGLC Result

Press PF12 <PAGE RIGHT>.

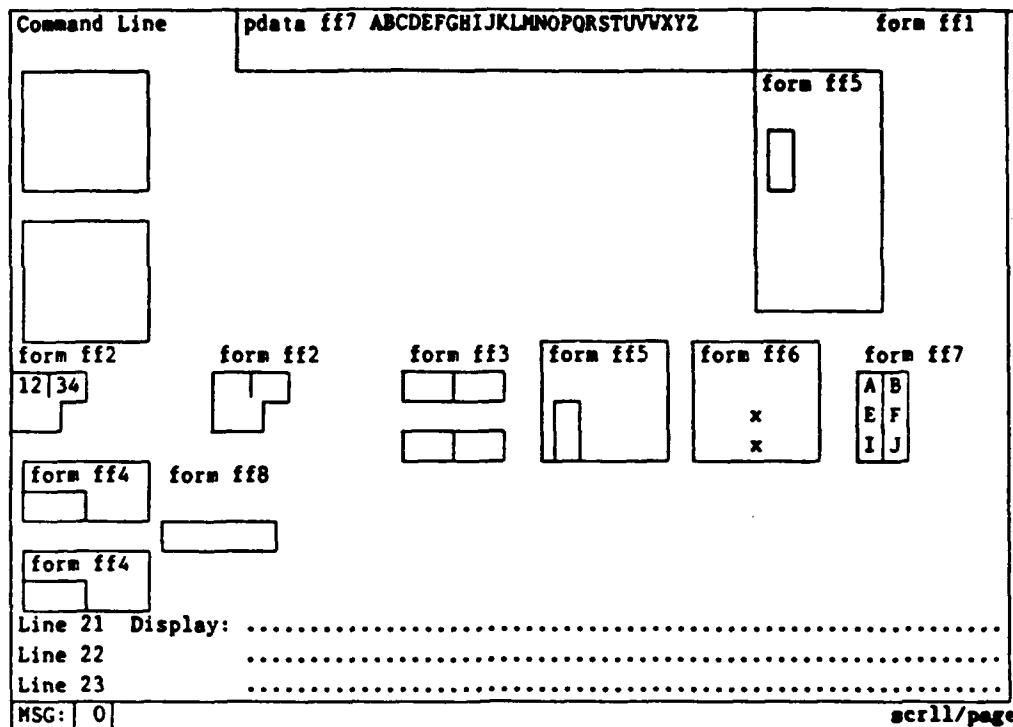


Figure 5-341 Page Up

Press PF9 <PAGE UP>.

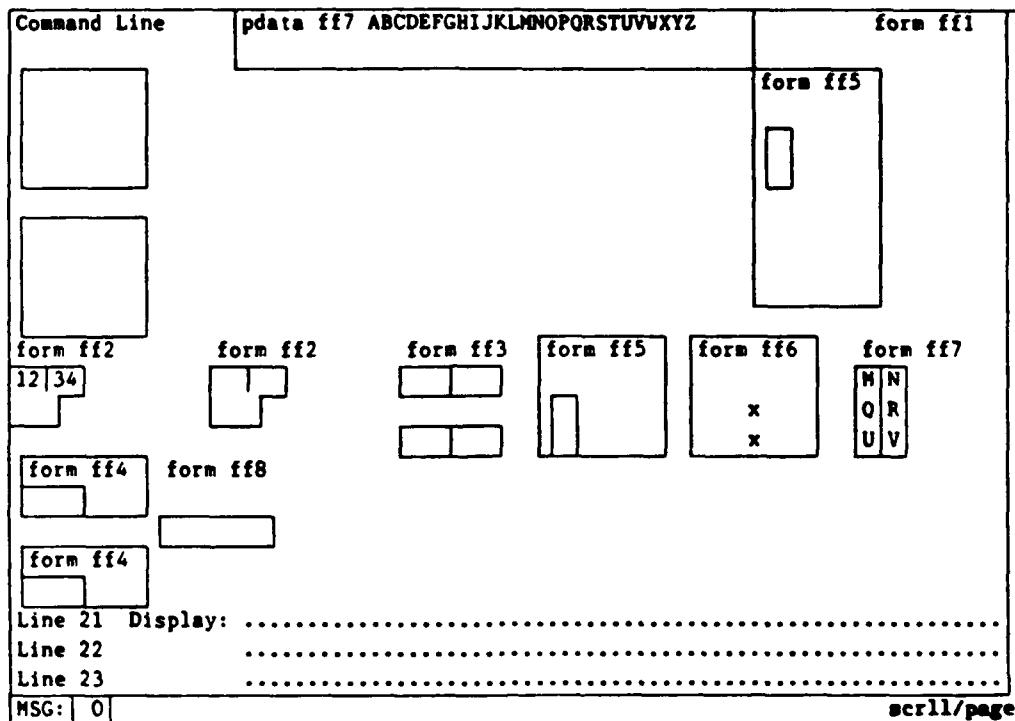


Figure 5-34m Test PMSGLES

Press PF9 <PAGE UP>.

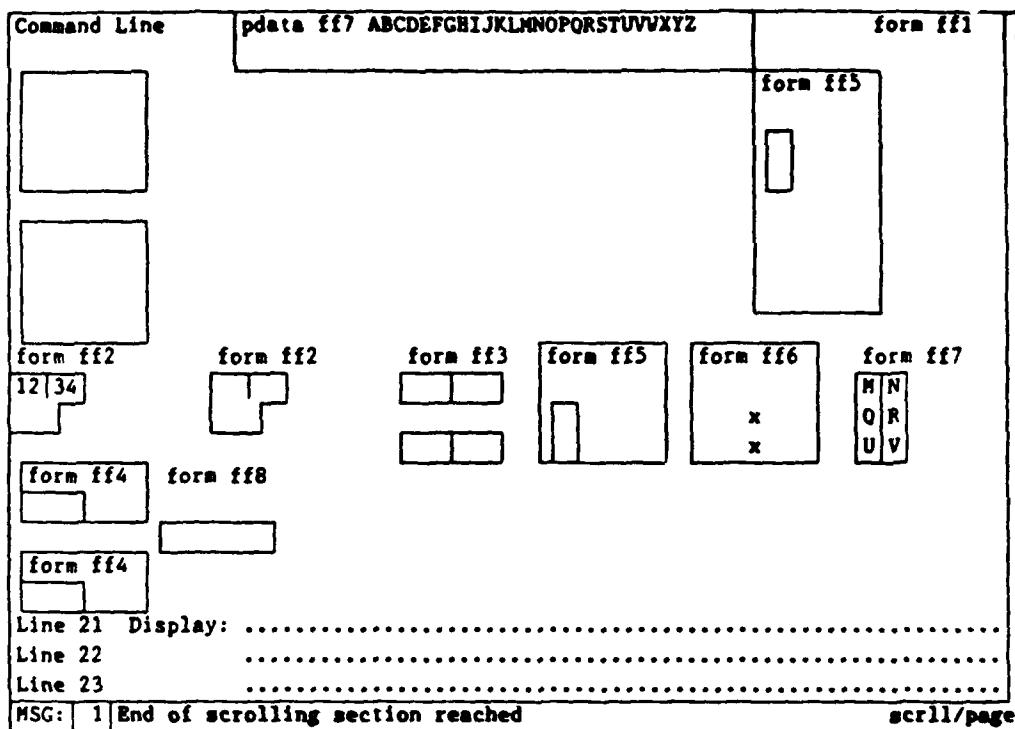


Figure 5-34n PMSGLES Result

Press PF10 <PAGE DOWN>.

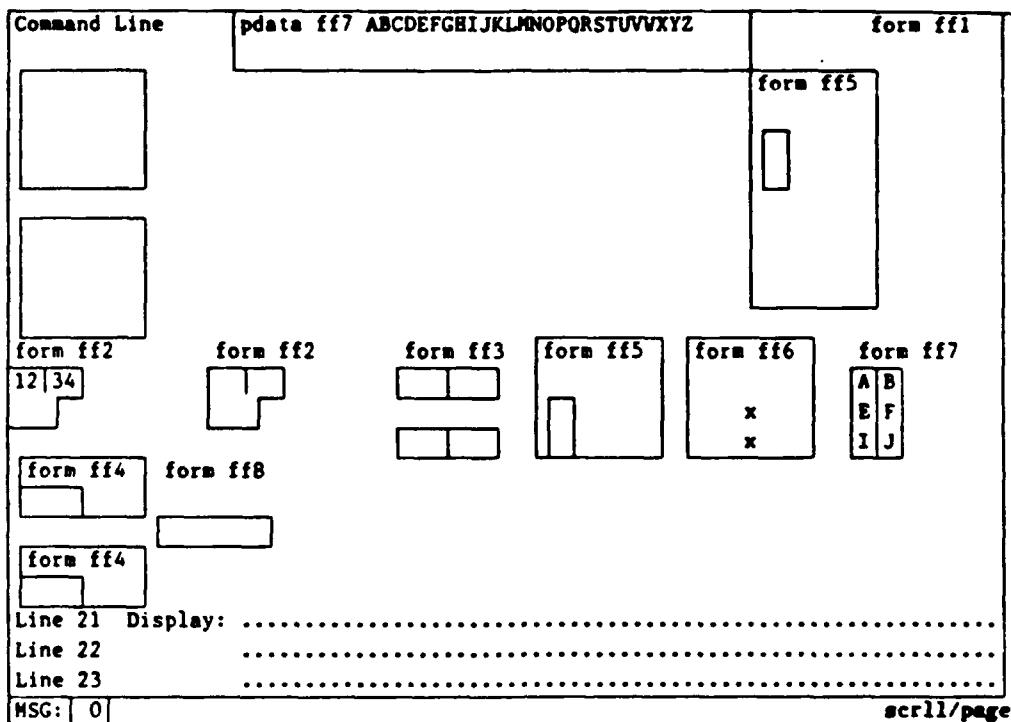


Figure 5-34o Scrolling Ended

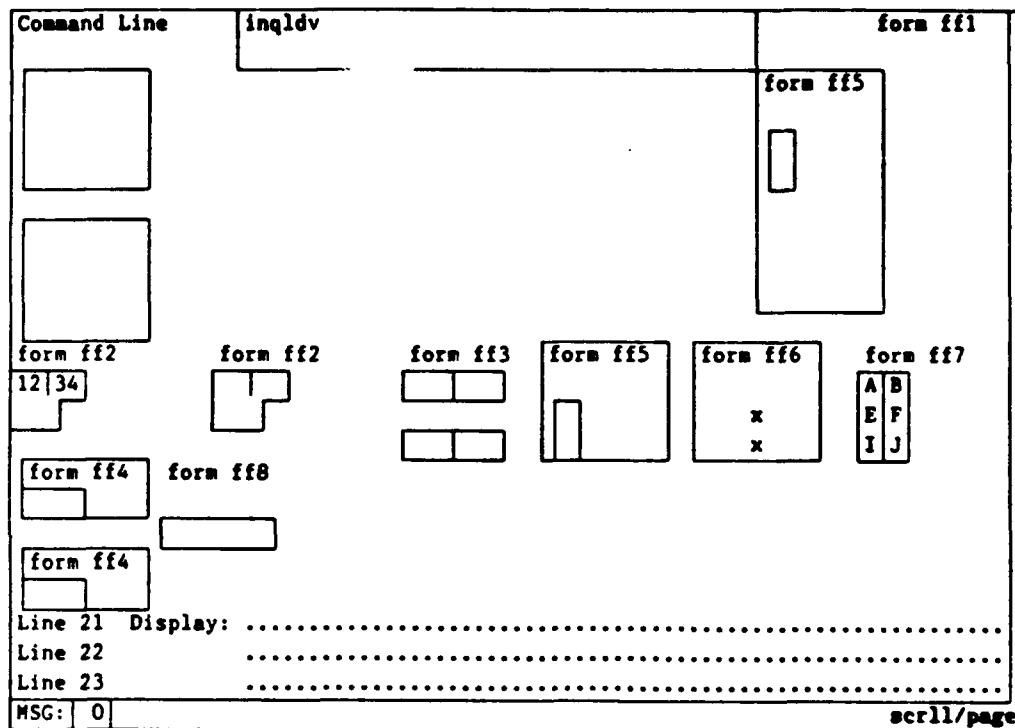


Figure 5-35a Test INQLDV

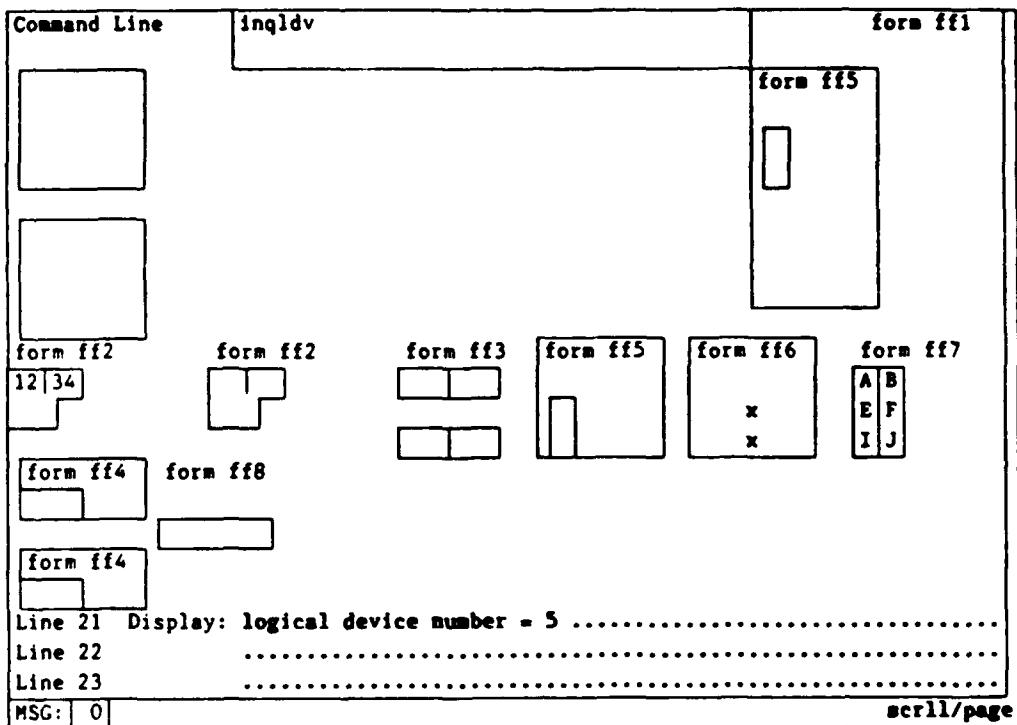


Figure 5-35b INQLDV Result

Logical device numbers are determined at run time. Substitute the number you get (if it's not '5') wherever '5' appears in the remainder of this test.

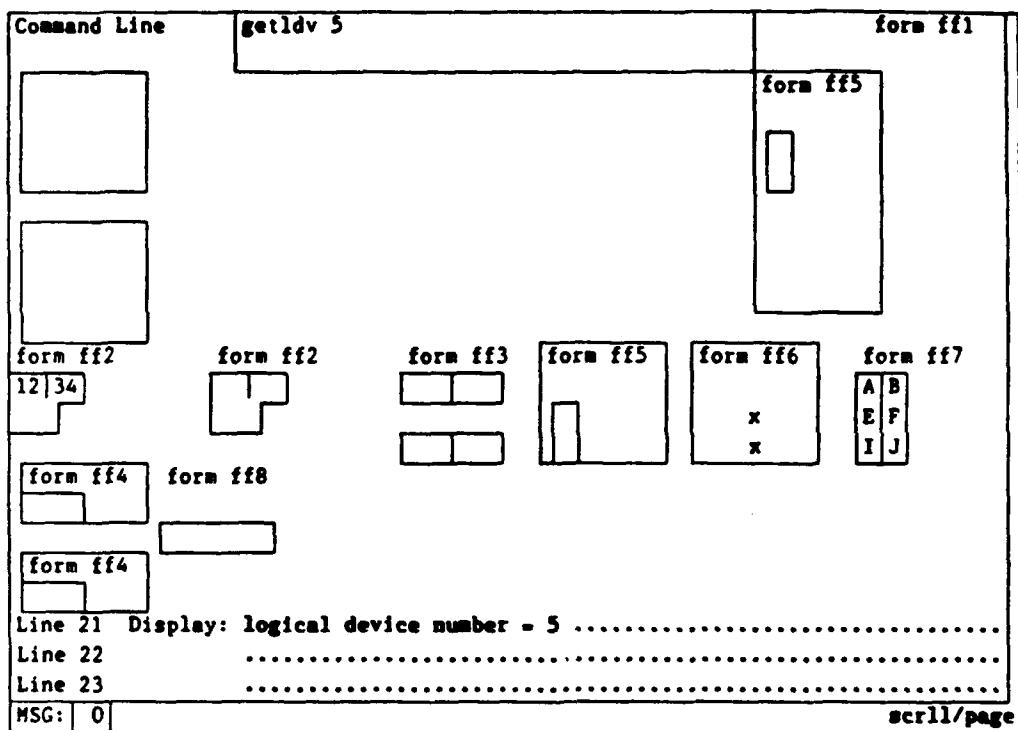


Figure 5-36a Test GETLDV

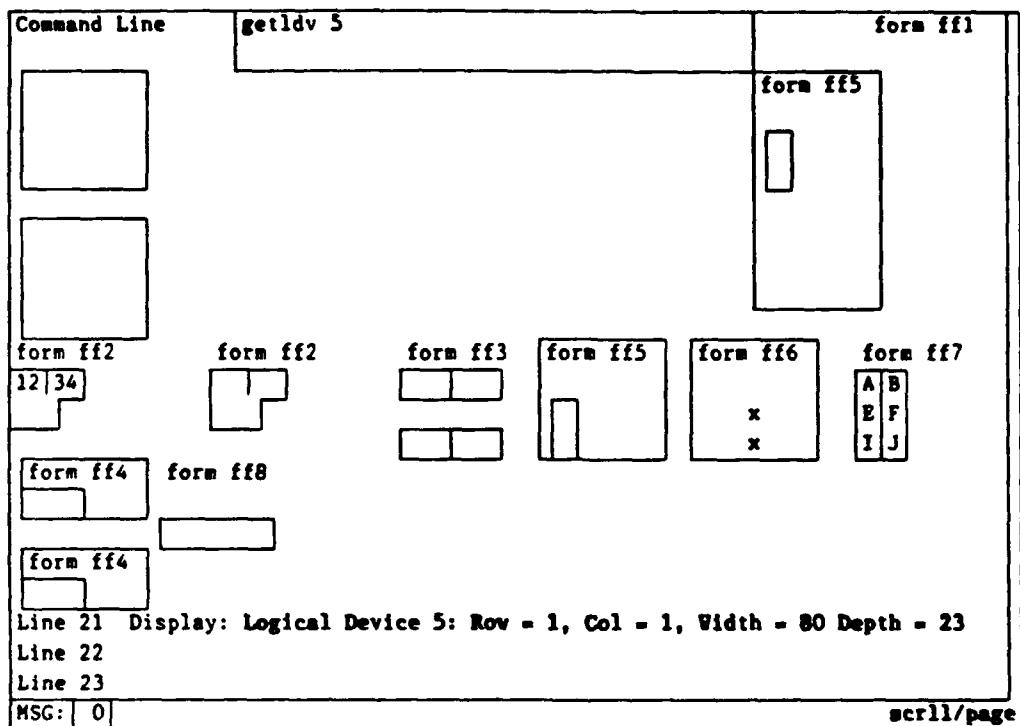


Figure 5-36b GETLDV Result

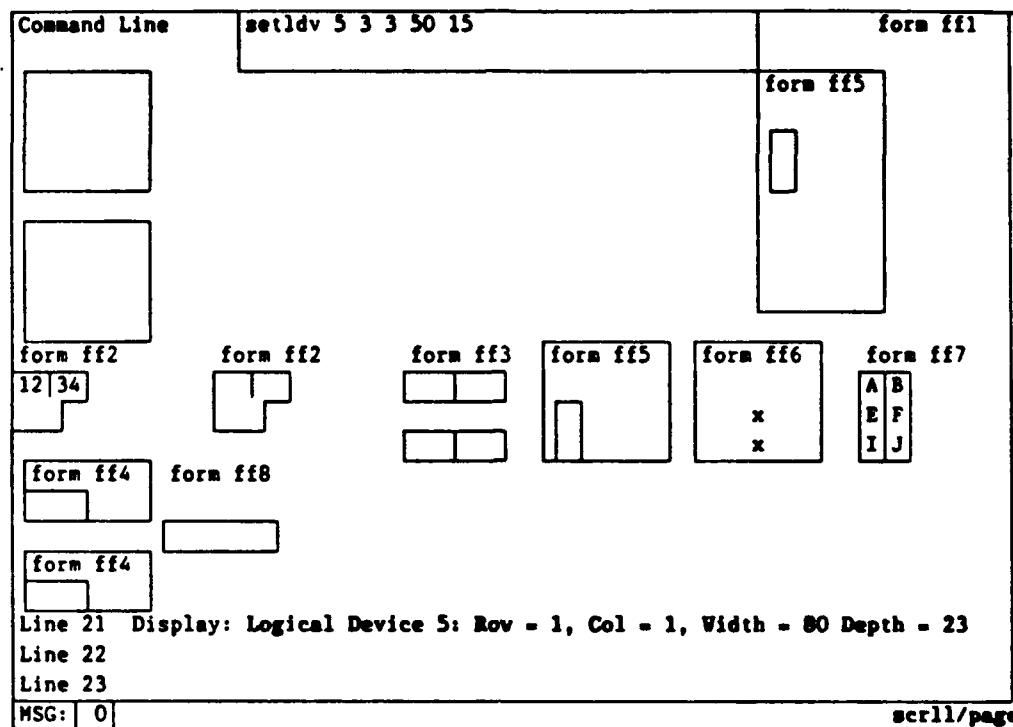


Figure 5-37a Test SETLDV (Smaller)

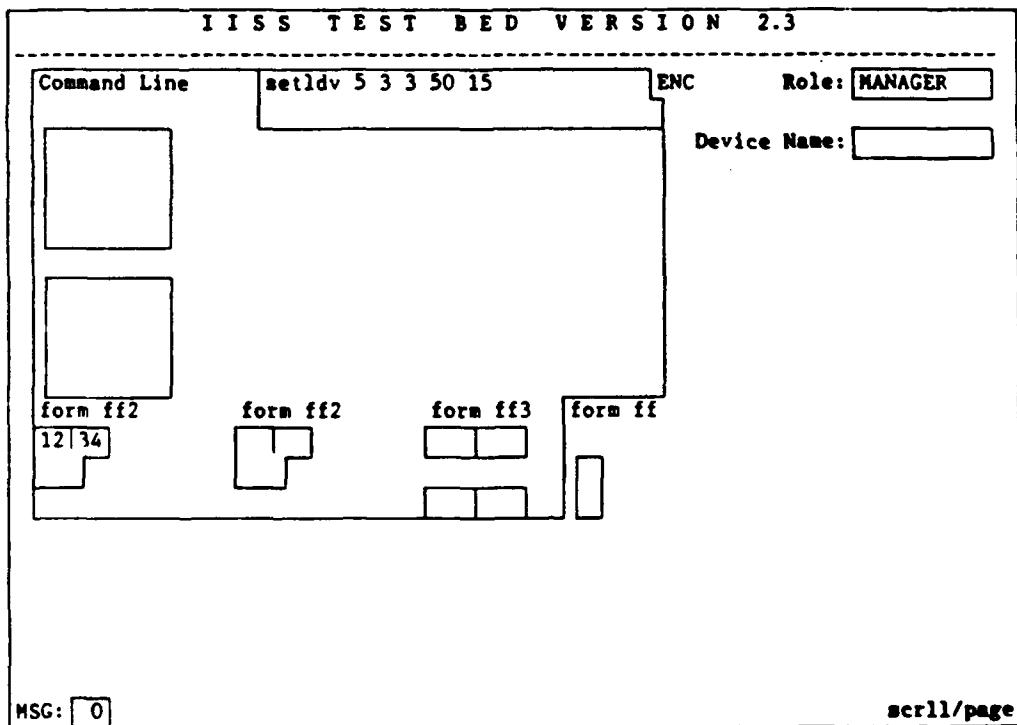


Figure 5-37b SETLDV Result

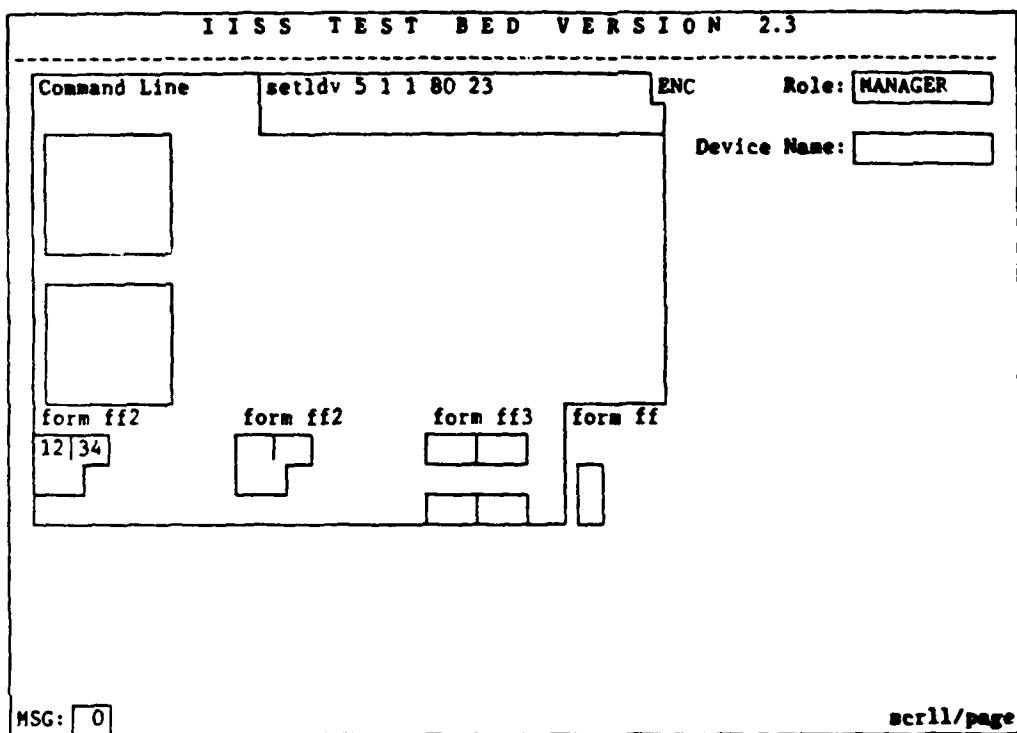


Figure 5-38a Test SETLDV (Larger)

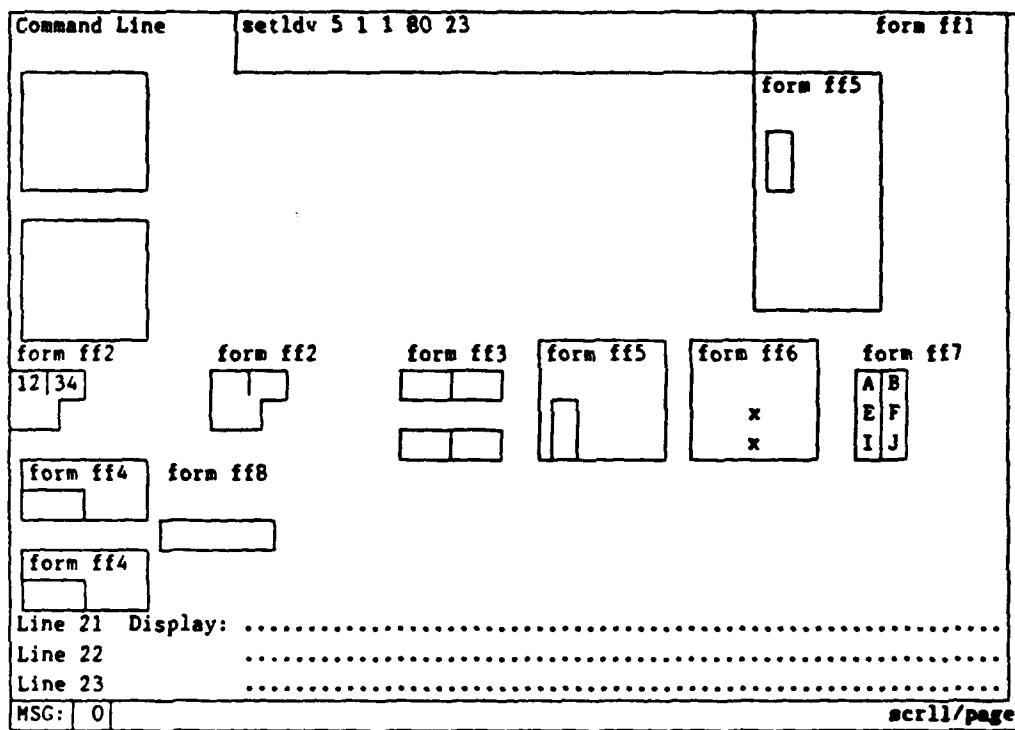


Figure 5-38b SETLDV Result

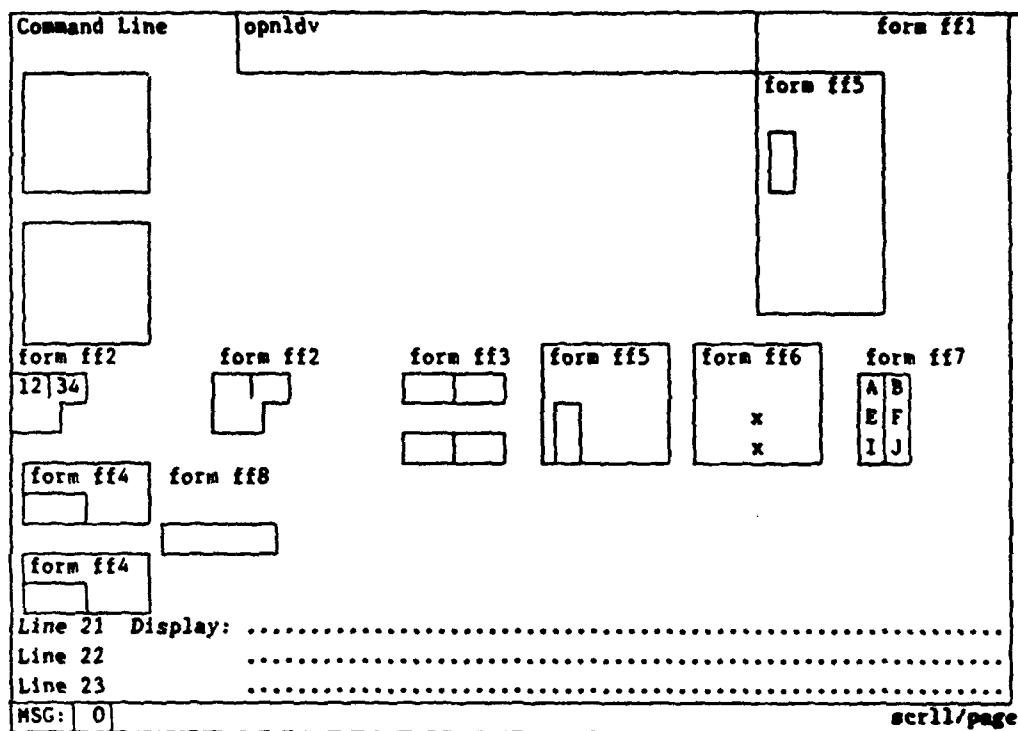


Figure 5-39a Test OPNLDV

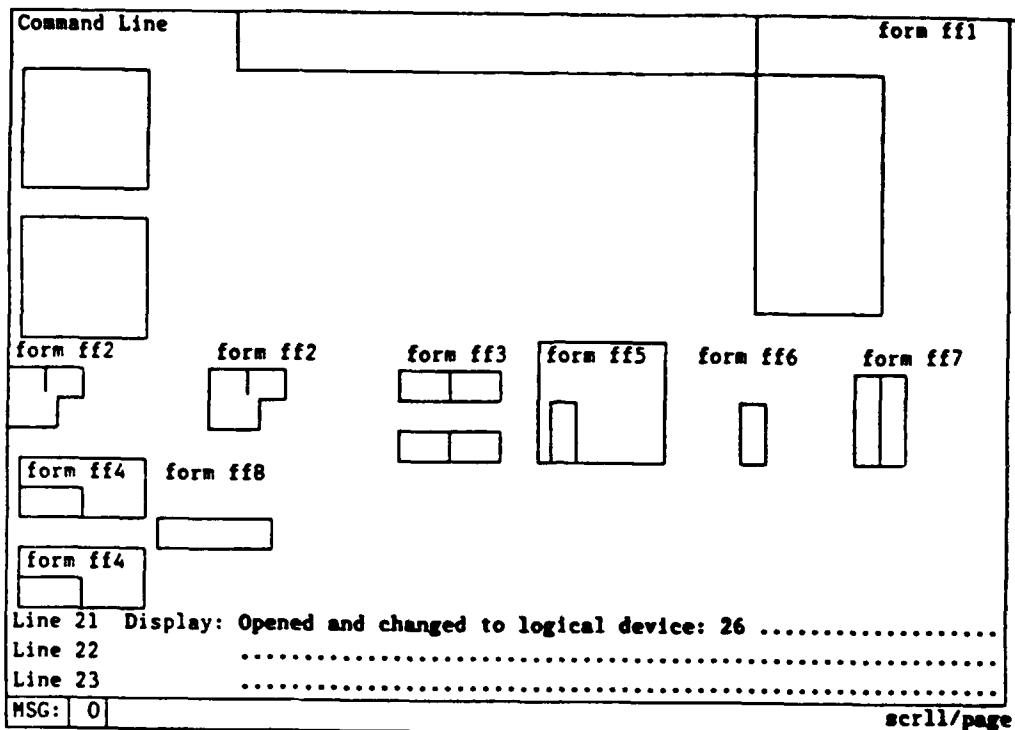


Figure 5-39b OPNLDV Result

Logical device numbers are determined at run time. Substitute the number you get (if it's not '23') wherever '23' appears in the remainder of this test.

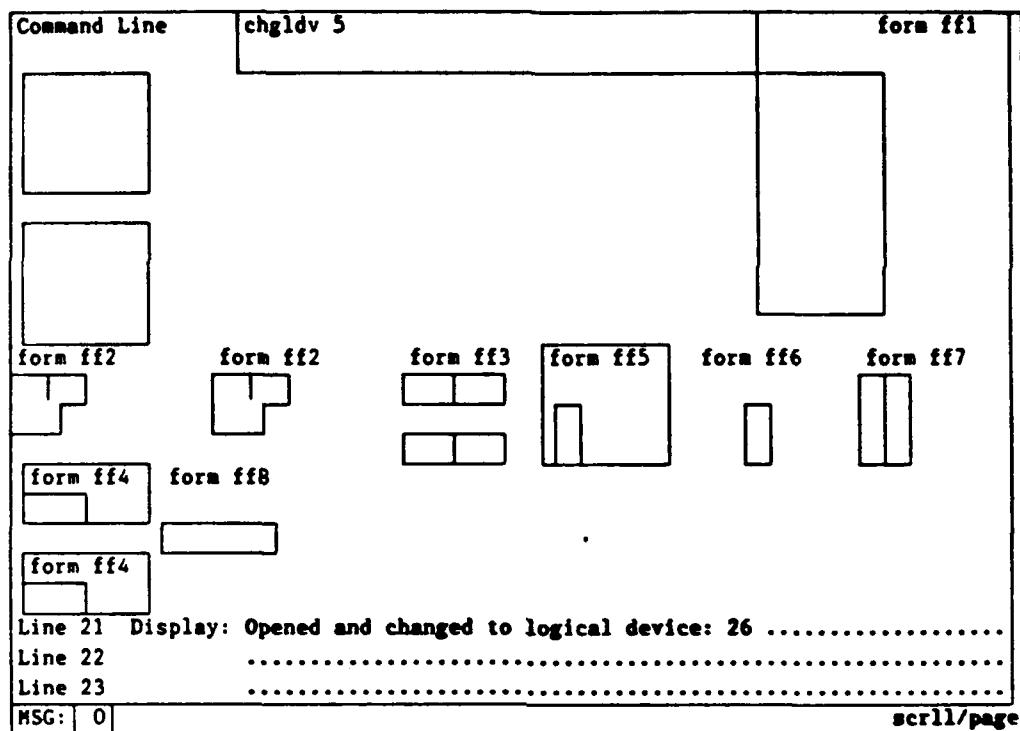


Figure 5-40a Test CHGLDV

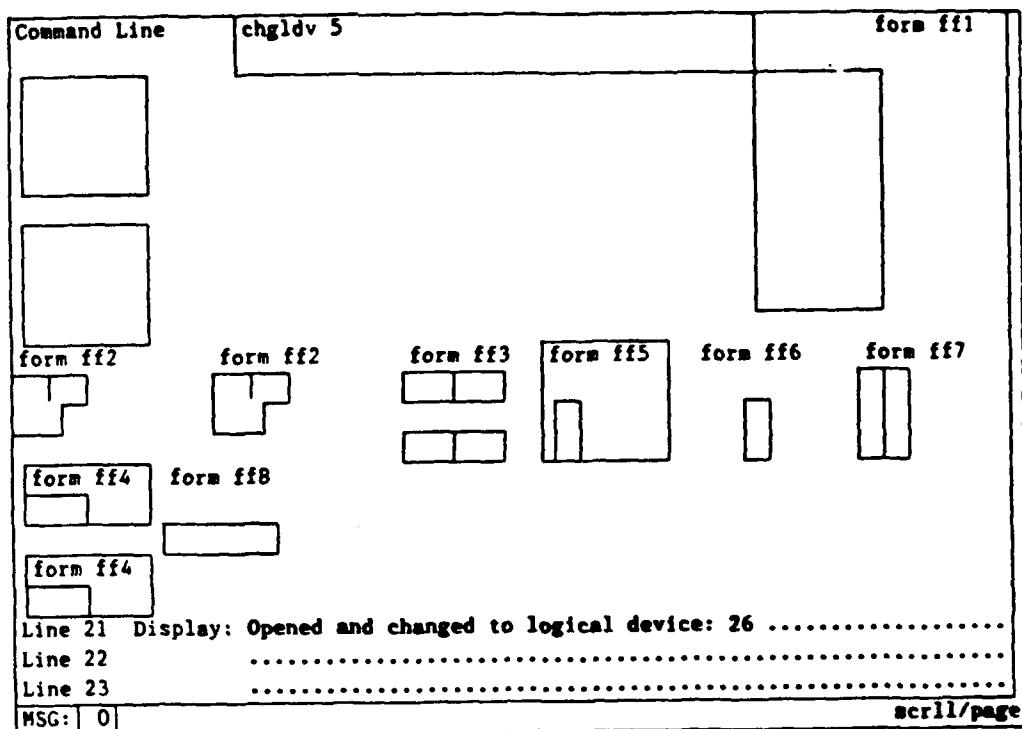


Figure 5-40b CHGLDV Result

All fields non-enterable.

Press <MODE> key to get into window manager mode.

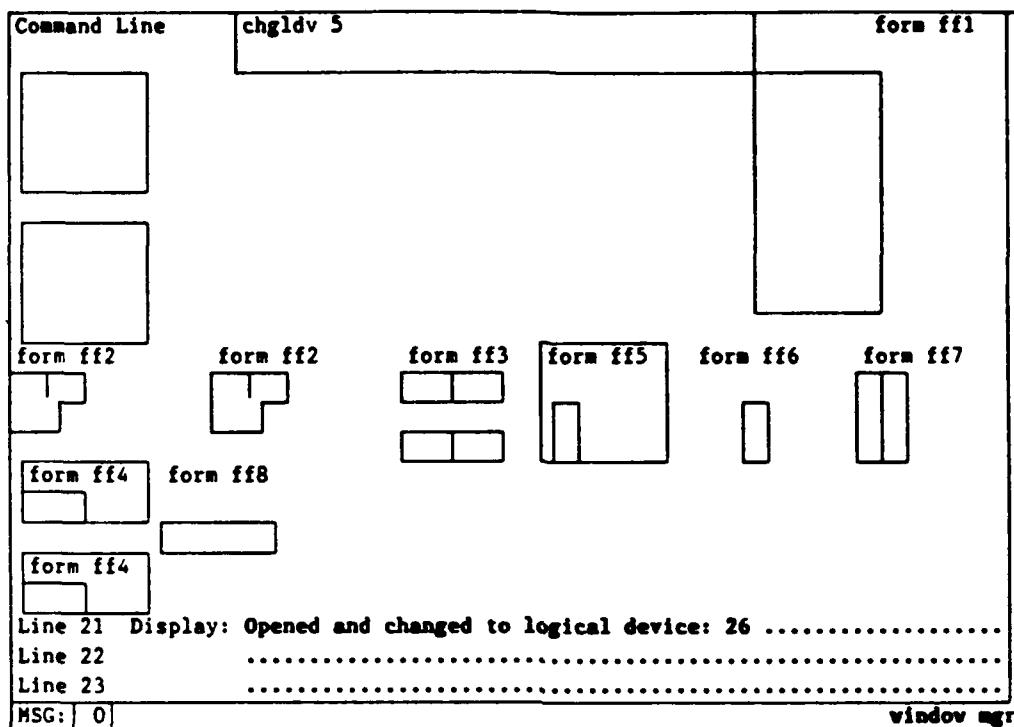


Figure 5-41a Select Application

Press PF14 <SELECT AP>.

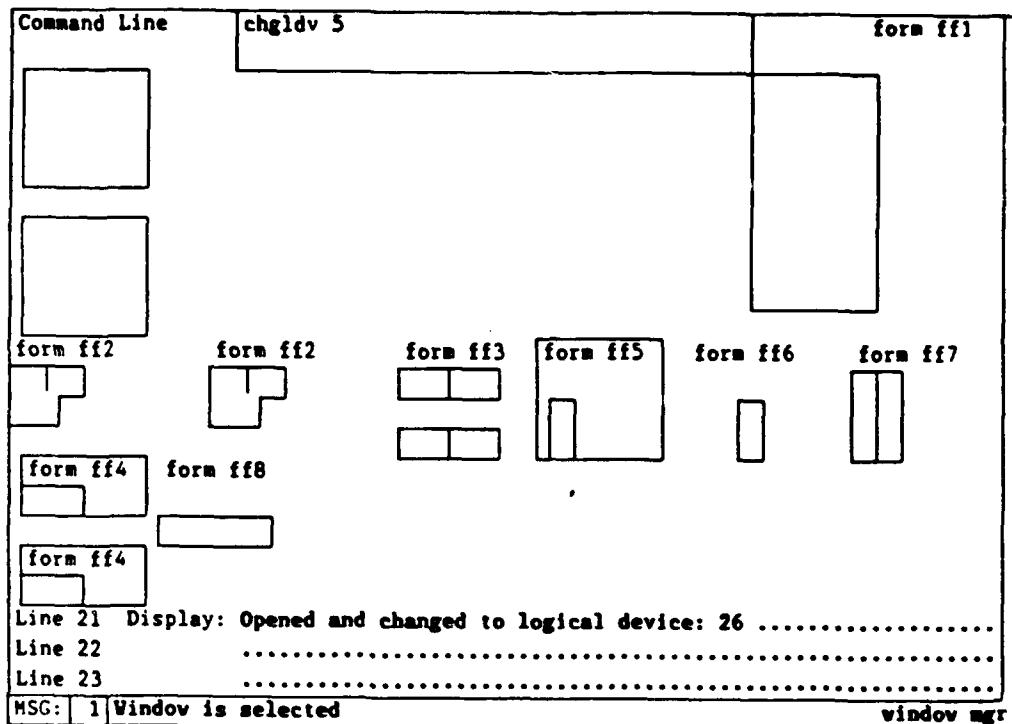


Figure 5-41b Application Selected (LDV 5)

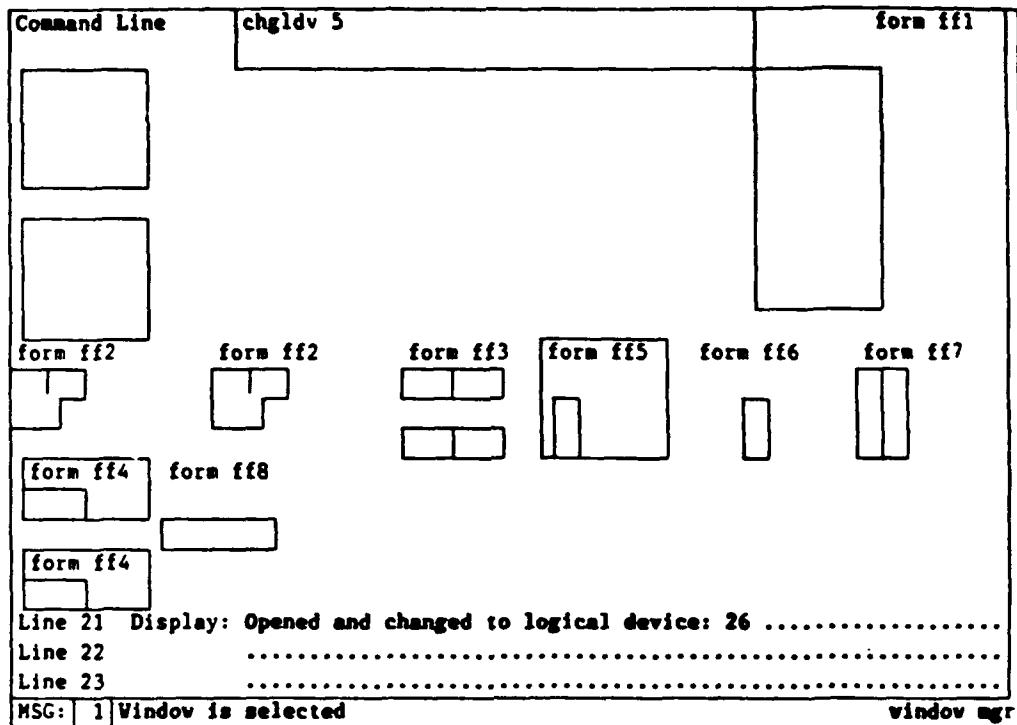


Figure 5-42a Test Size Key

Position cursor above 'm' in 'form ff3' then press PF9 <SIZE>.

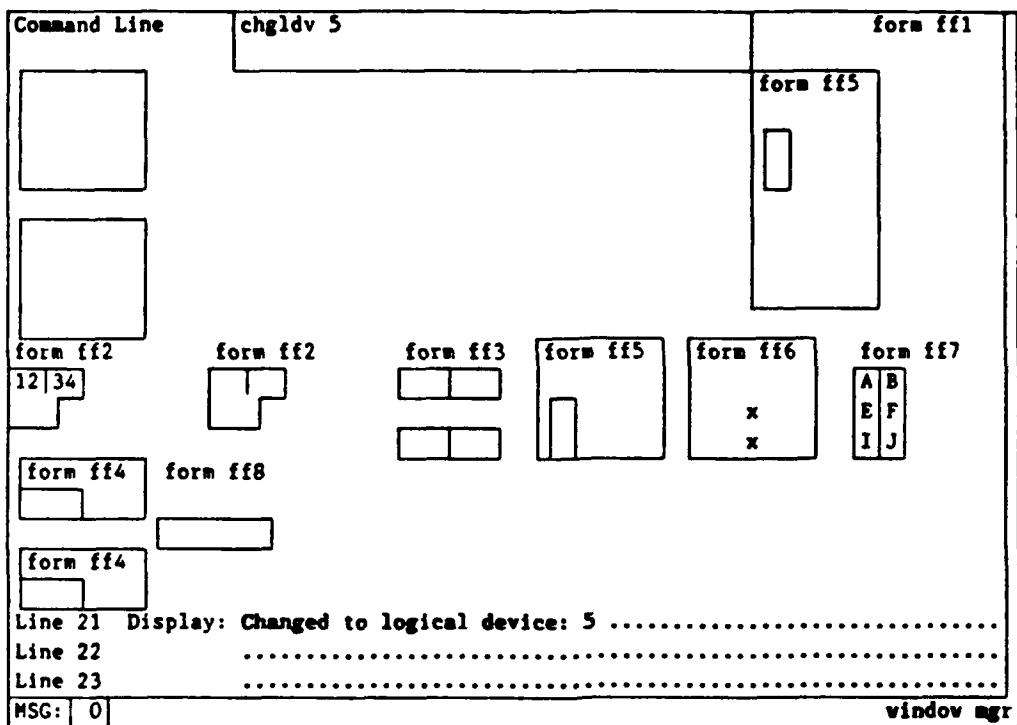


Figure 5-42b Size Result

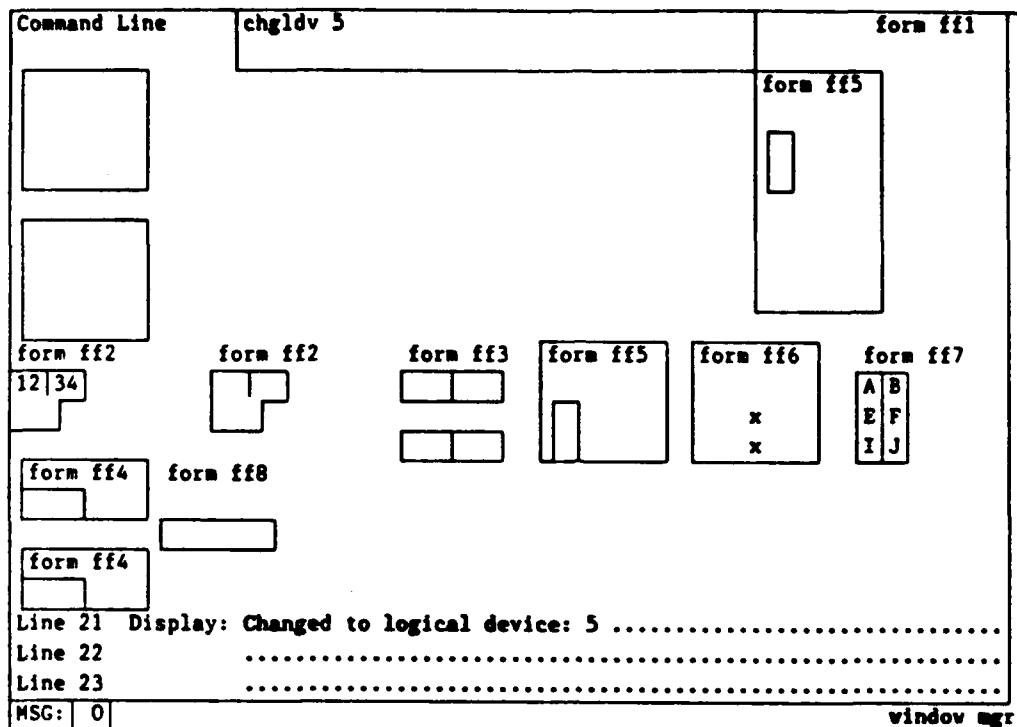


Figure 5-43a Test Location Key

Position cursor as shown and press PF10 <LOCATION>.

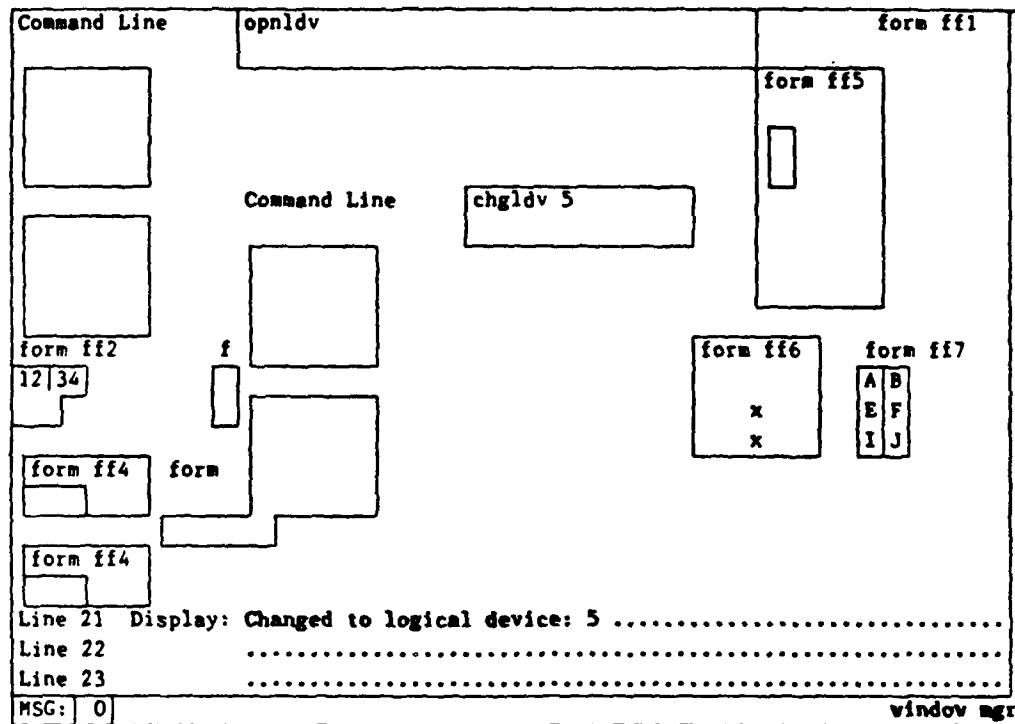


Figure 5-43b Location Result

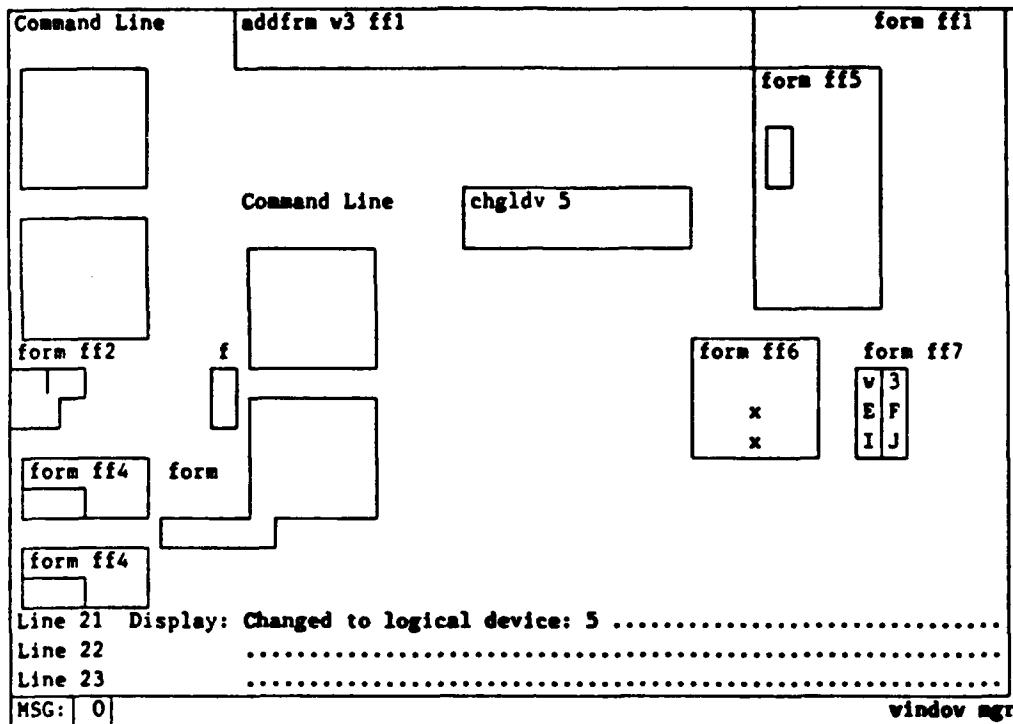


Figure 5-44a Add Form ff1

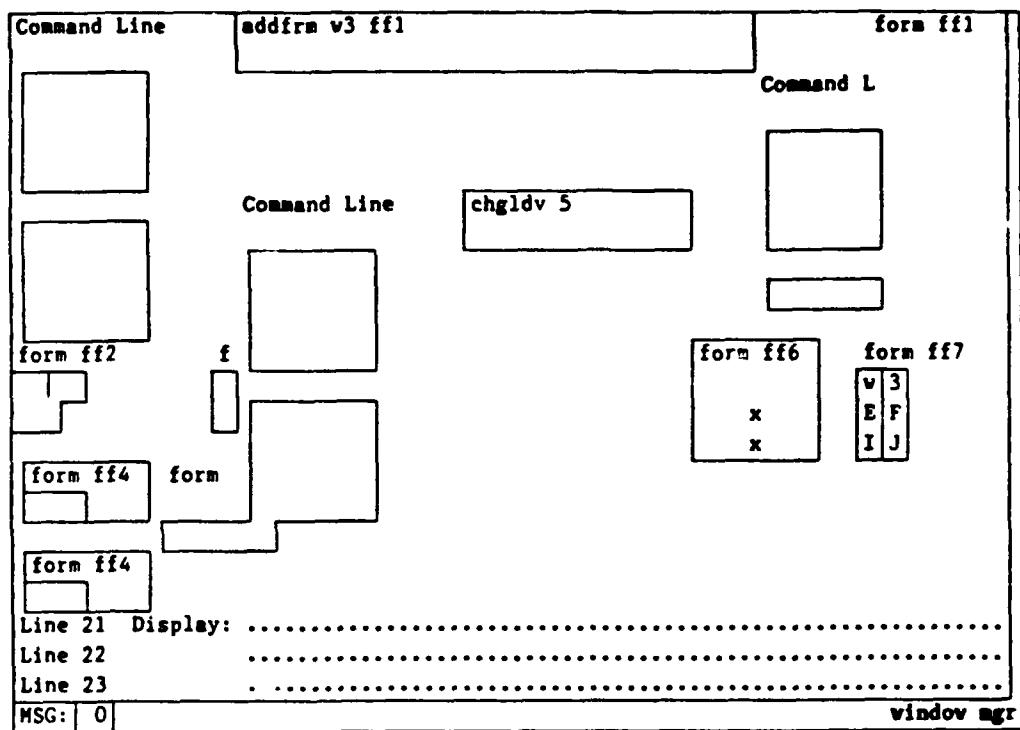


Figure 5-44b Form ff1 Added

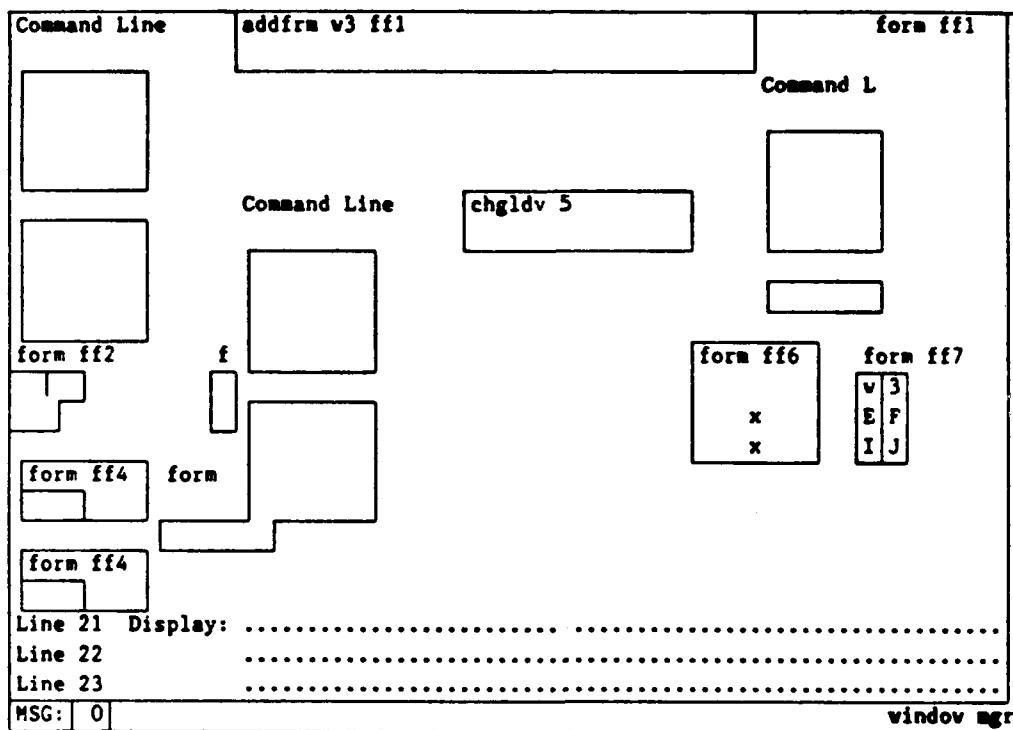


Figure 5-45a Test Selected Window

Position cursor on 'C' in 'Command L' below form ff1 and press PF11 <SELECT WINDOW>.

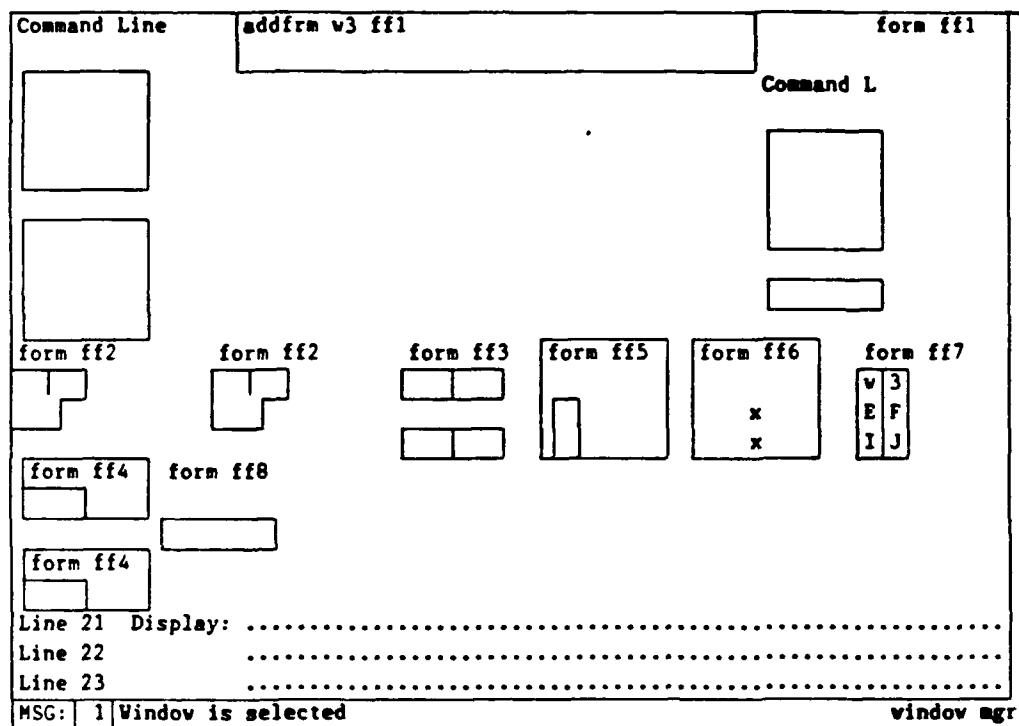


Figure 5-45b Select Window Result

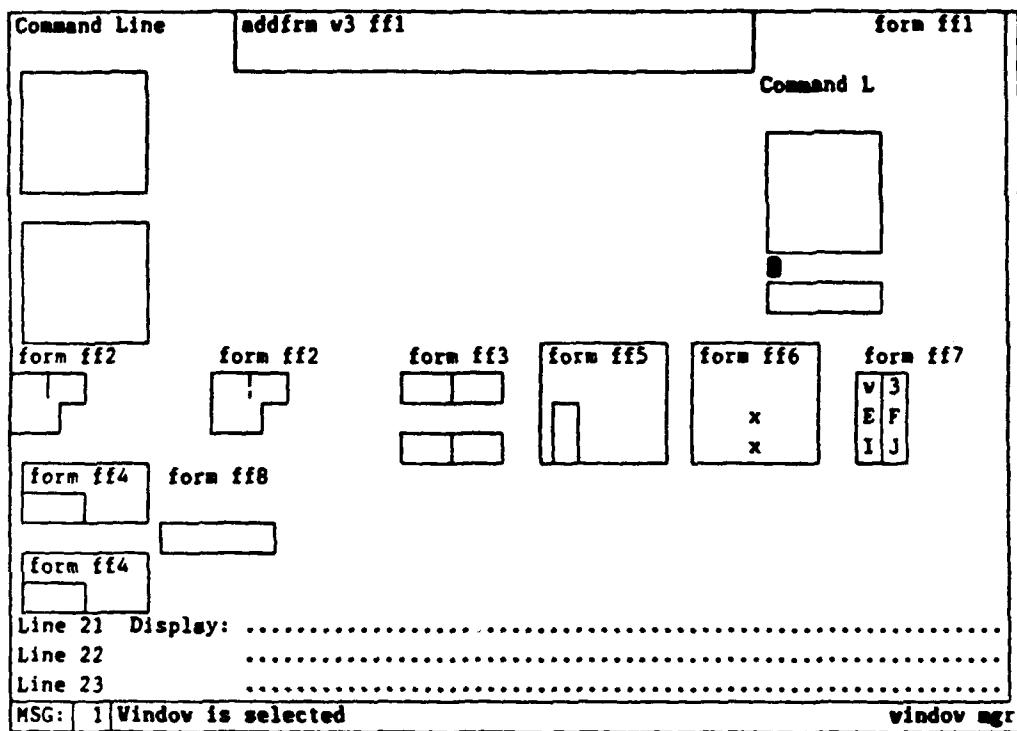


Figure 5-46a Test Page Up

Position cursor as shown and press PF5 <PAGE UP>.

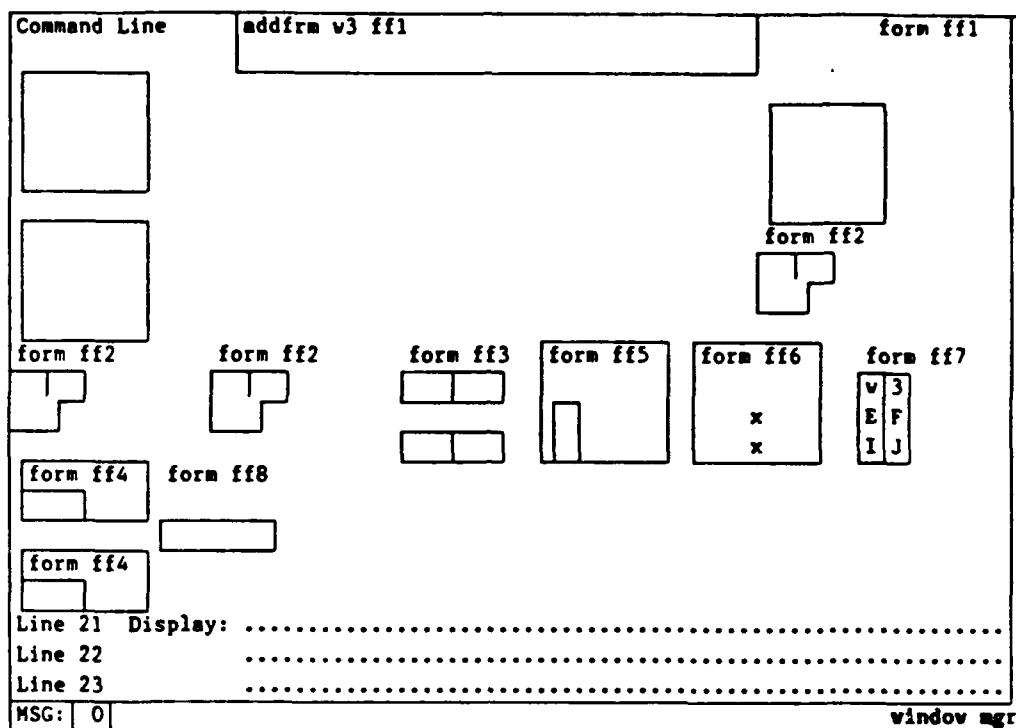


Figure 5-46b Page Up Result

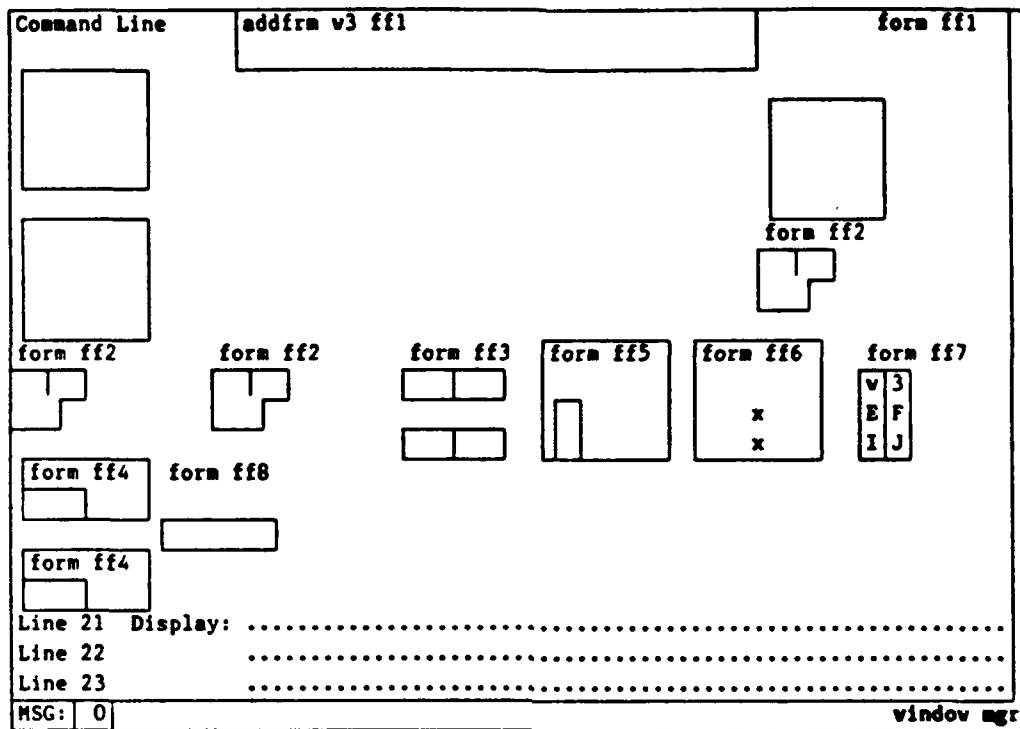


Figure 5-47a Test Page Down

Position cursor as shown and press PF6 <PAGE DOWN>.

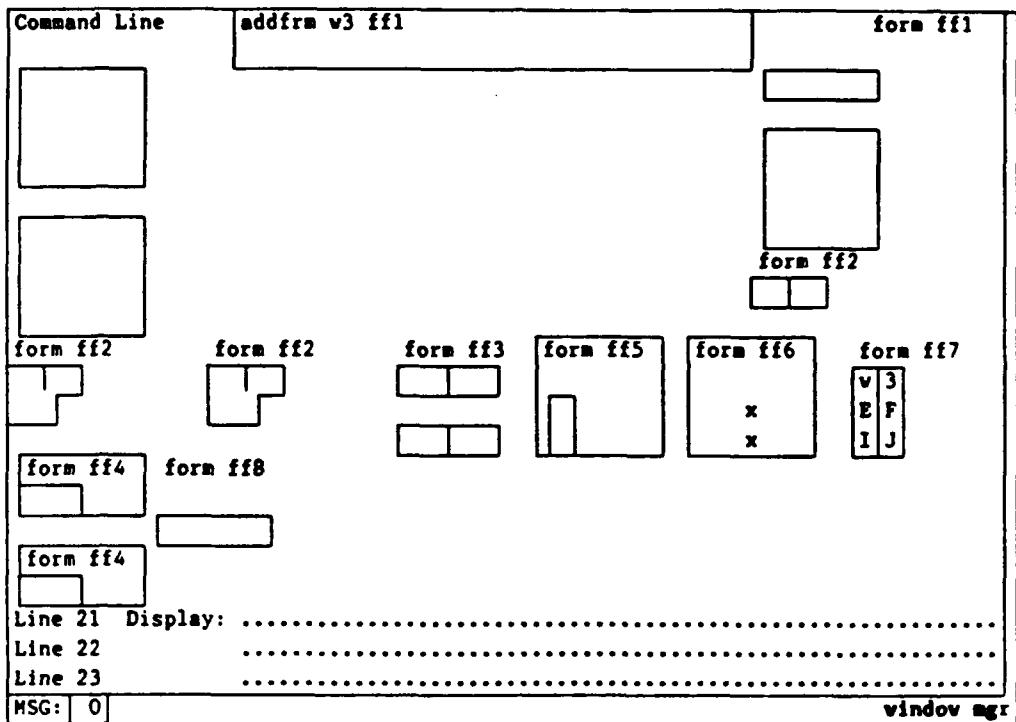


Figure 5-47b Page Down Result

Press PF15 <HOME VIEW>.

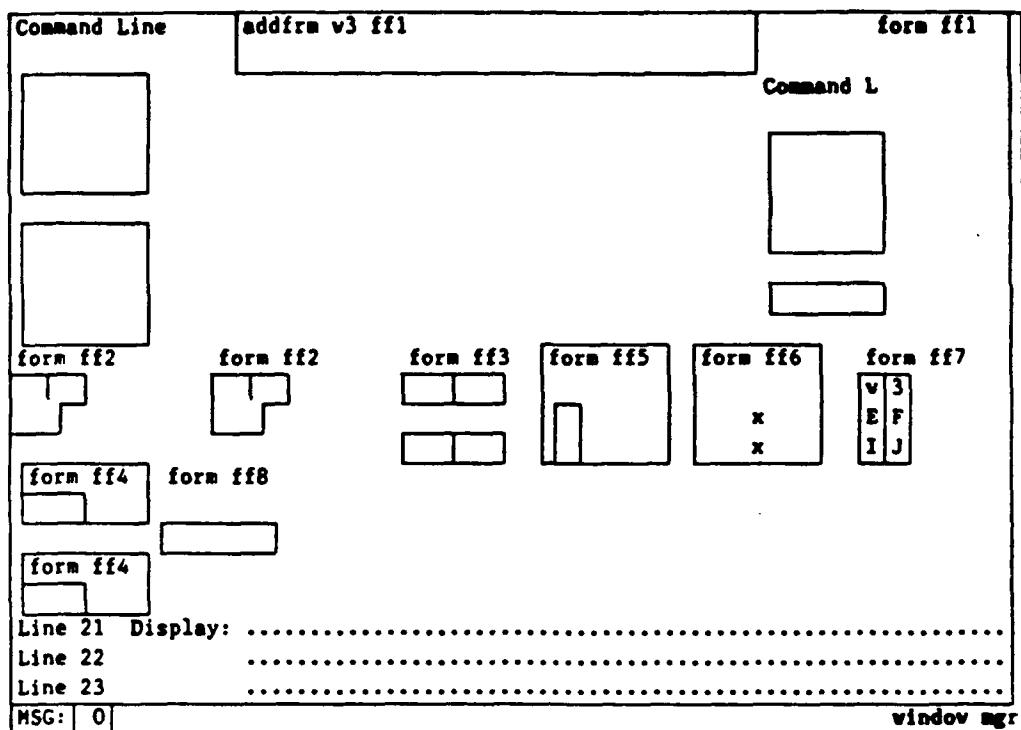


Figure 5-47c Home View Result

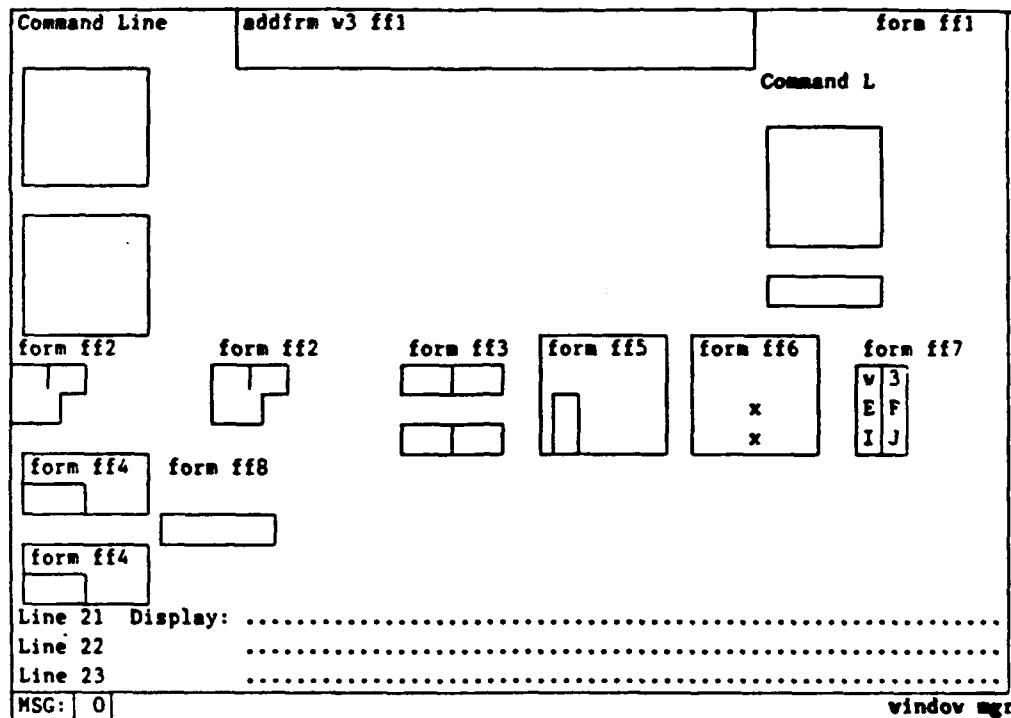


Figure 5-48a Test Page Left

Position cursor on 'L' in 'Command L' below form ff1 and press PF7 <PAGE LEFT>.

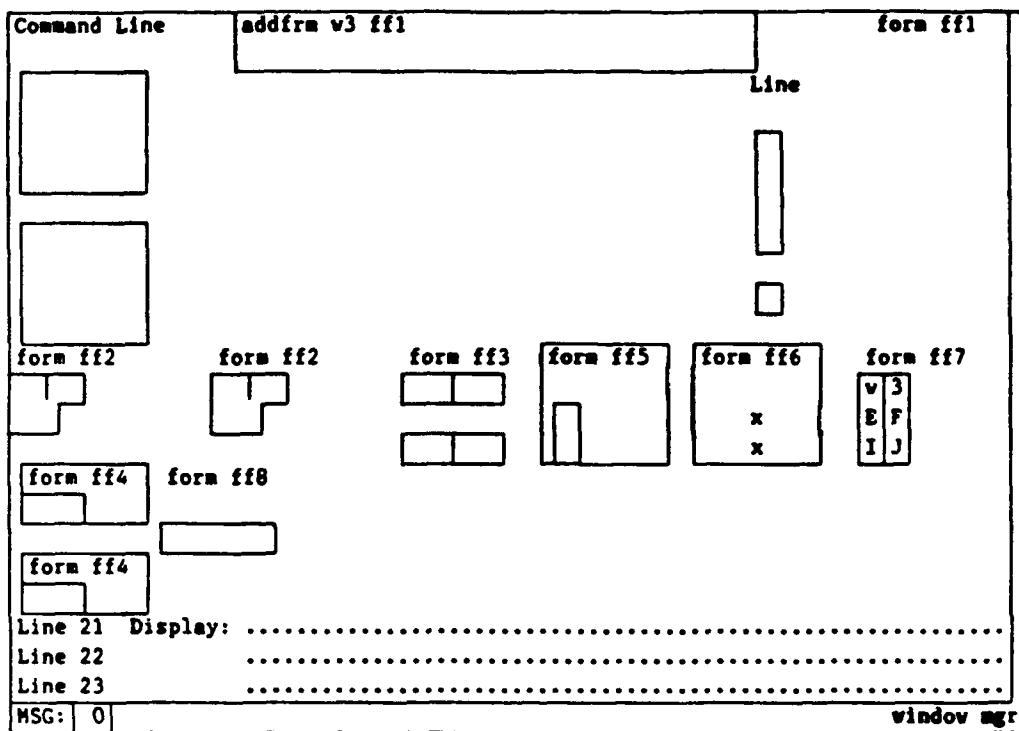


Figure 5-48b Page Left Result

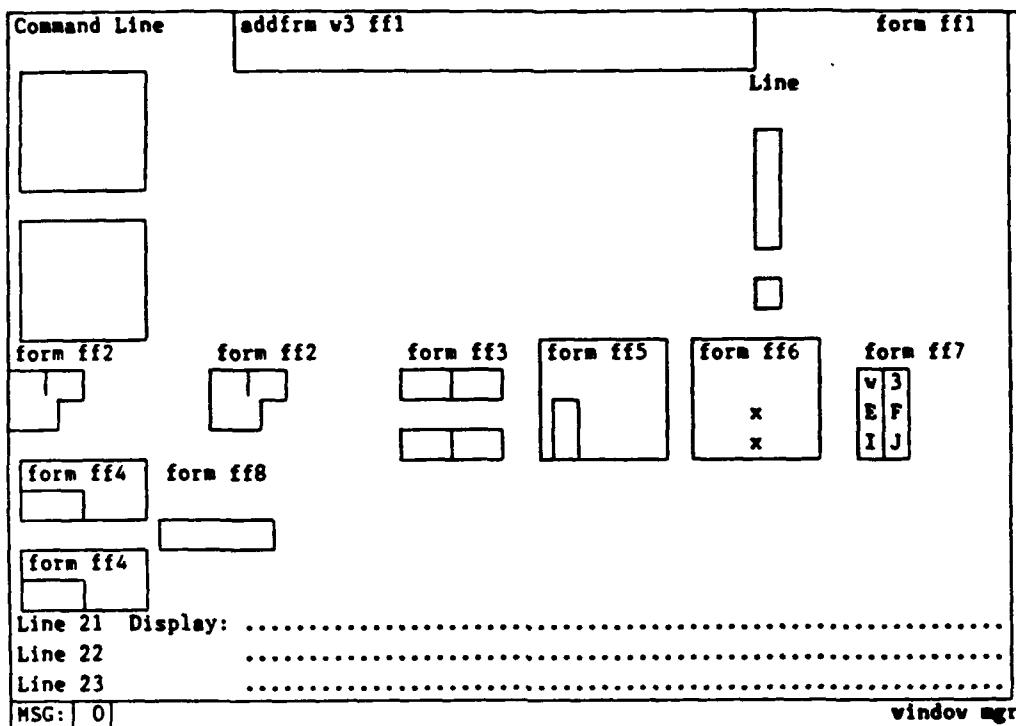


Figure 5-49a Test Page Right

Position cursor on 'L' in 'Line' below form ff1 and press PF8 <PAGE RIGHT>.

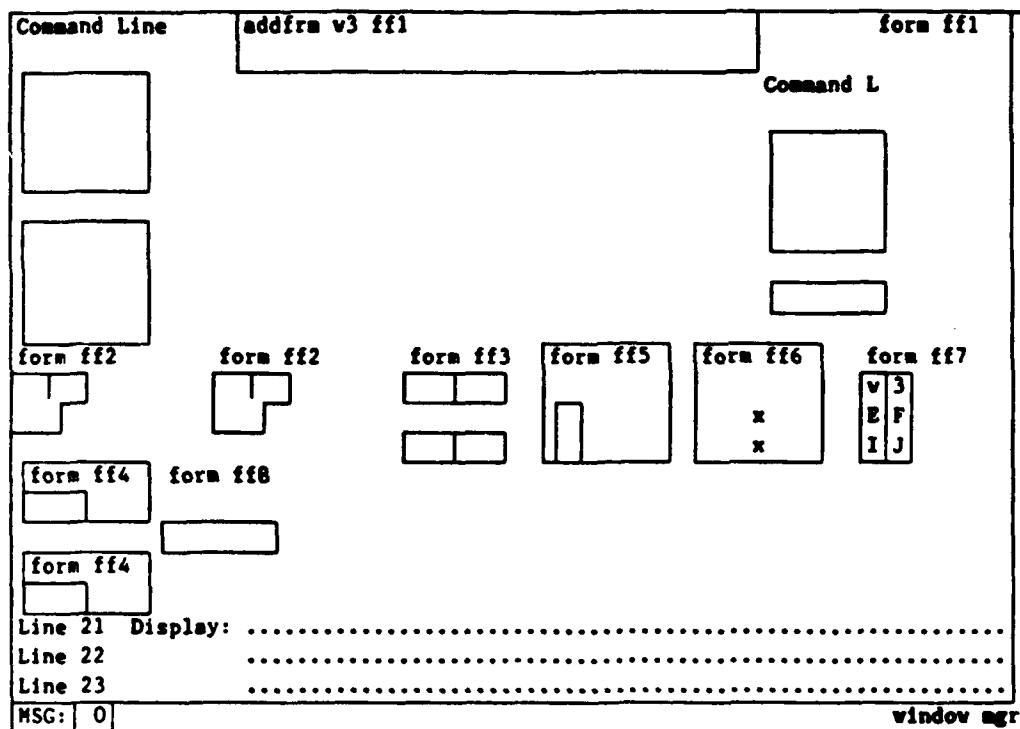


Figure 5-49b Page Right Result

Press PF12 <UNSELECT WINDOW>.

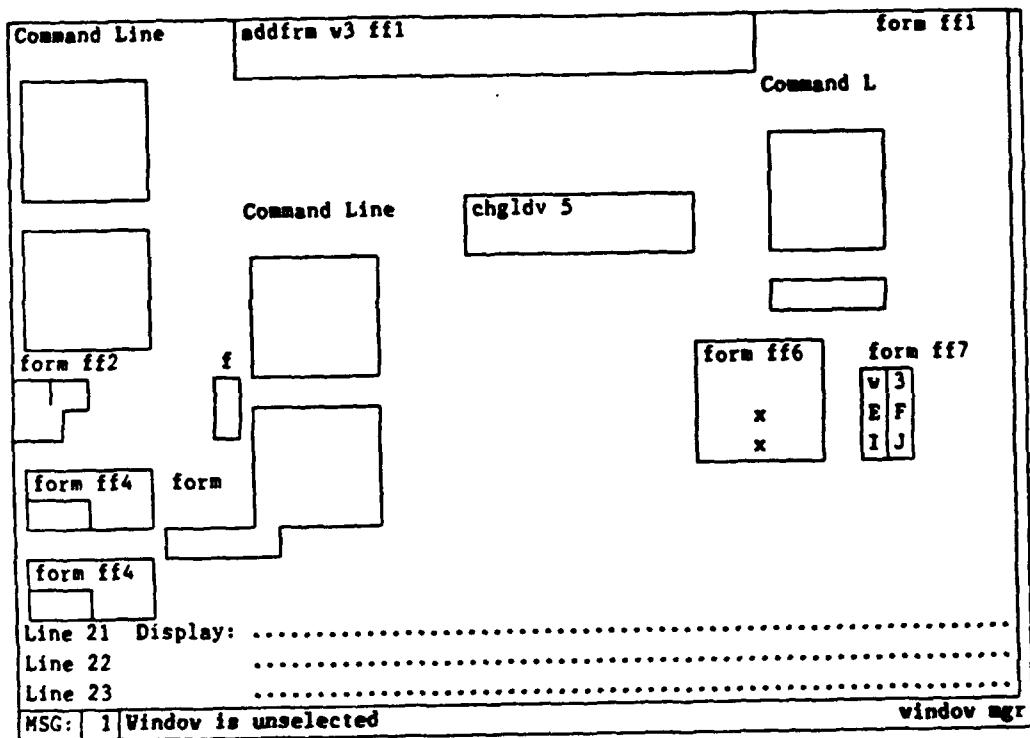


Figure 5-49c Unselect Window Result

Press <MODE> key to get into status mode.

Command Line	addfrm v3 ffl	form ffl
		Command L
form ff2	Command Line	chgldv 5
form ff4	f	form ff6
form ff4		form ff7
Line 21 Display:	x	w 3
Line 22	x	E F
Line 23		I J
MSG: 1 Window is unselected	status	

Figure 5-50a Test APSTAT

Press PF6 (APSTAT) to display Application Status Form.

Application Status										
Application	Type	Name	Pri	Device		Window Name	Location Row Col	Display Size V D		Viewport Row Col
				Row	Col			Row	Col	
SDARTESTZZ	VT100	TT:	1	7	19	SCREEN	36 11	0	0	
SDARTESTZZ				1	1	VNP	79 69	0	0	
SDARTESTZZ				3	45	V3	0 0	0	0	
SDARTESTZZ				3	60		10 8	0	0	
SDARTESTZZ	VT100	TT:	2	1	1		80 23	0	0	
SDARTESTZZ				1	1	SCREEN	79 69	0	0	
SDARTESTZZ				3	45	VNP	0 0	0	0	
SDARTESTZZ				3	60	V3	10 8	0	0	
SDARTESTZZ				3	45		0 0	0	0	
SDARTESTZZ				3	60		10 8	0	0	
MENU	VT100	TT:	3	1	1		80 23	0	0	
MSG: <input type="text" value="0"/>				status						

Figure 5-50b Application Status Form

The Device Type field value may be different than shown in this figure. This value is assigned by the NTM at run time.

Application Status												
Application	Type	Device		Pri	Name	Window	Location		Display		Viewport	
		Rev	Col				W	D	Size	Offset	Row	Col
SDARTESTZZ	SDPRINTERZ	PRINT.DEV	1			SCREEN	7	19	36	11	0	0
SDARTESTZZ				1	1	WNF	1	1	79	69	0	0
SDARTESTZZ				3	45	V3	3	60	0	0	0	0
SDARTESTZZ				3	60	V3	1	1	10	8	0	0
SDARTESTZZ	VT100	TT:	2			SCREEN	1	1	80	23	0	0
SDARTESTZZ				1	1	WNF	1	1	79	69	0	0
SDARTESTZZ				3	45	V3	3	60	0	0	0	0
SDARTESTZZ				3	60	V3	3	45	10	8	0	0
SDARTESTZZ				3	60	V3	3	60	0	0	0	0
SDARTESTZZ				3	60	V3	1	1	10	8	0	0
MENU	VT100	TT:	3				1	1	80	23	0	0
MSG: <input type="text" value="0"/>										status		

Figure 5-50c Manually Test Move LDV

Change form as shown and press <ENTER>. NOTE: 'SDPRINTERZ' and 'PRINT.DEV' must be entered in the upper case for this release.

Command Line	addfrm v3 ff1	form ff1			
		Command L			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
Line 21 Display:					
Line 22					
Line 23					
MSG:	0	status			

Figure 5-50d Move LDV Result

Press PF6 (APSTAT) to display Application Status Form.

Application Status												
Application	Type	Device		Pri	Name	Window	Location		Display		Viewport	
		Rov	Col				V	D	Size	Offset	Rov	Col
SDARTESTZZ	SDPRINTERZ	PRINT.DEV				SCREEN	7	19	36	11	0	0
SDARTESTZZ						WNP	1	1	79	24	0	0
SDARTESTZZ						V3	3	45	0	0	0	0
SDARTESTZZ						V3	3	60	10	8	0	0
SDARTESTZZ	VT100		TT:		1	SCREEN	1	1	80	23	0	0
SDARTESTZZ						WNP	1	1	79	69	0	0
SDARTESTZZ						V3	3	45	0	0	0	0
SDARTESTZZ						WNP	3	60	10	8	0	0
SDARTESTZZ						V3	3	45	0	0	0	0
SDARTESTZZ						V3	3	60	10	8	0	0
MENU	VT100		TT:		2		1	1	80	23	0	0
MSG: <input type="text" value="0"/>										status		

Figure 5-51a Application Status Form

Application Status											
Application	Type	Device		Window Name	Location	Display		Viewport			
		Pri	Name			Row	Col	W	D	Row	Col
SDARTESTZZ				1		7	19	36	11	0	0
SDARTESTZZ						1	1	79	24	0	0
SDARTESTZZ				SCREEN		3	45	0	0	0	0
SDARTESTZZ				VNP		3	60	10	8	0	0
SDARTESTZZ				V3		3	60	80	23	0	0
SDARTESTZZ						1	1	79	69	0	0
SDARTESTZZ				SCREEN		1	1	0	0	0	0
SDARTESTZZ				VNP		3	45	0	0	0	0
SDARTESTZZ				V3		3	60	10	8	0	0
SDARTESTZZ				VNP		3	45	0	0	0	0
SDARTESTZZ				V3		3	60	10	8	0	0
MENU	VT100	TT:		3		1	1	80	23	0	0
MSG: <input type="text" value="0"/>										status	

Figure 5-51b Return LDV

Change form as shown and press <ENTER>.

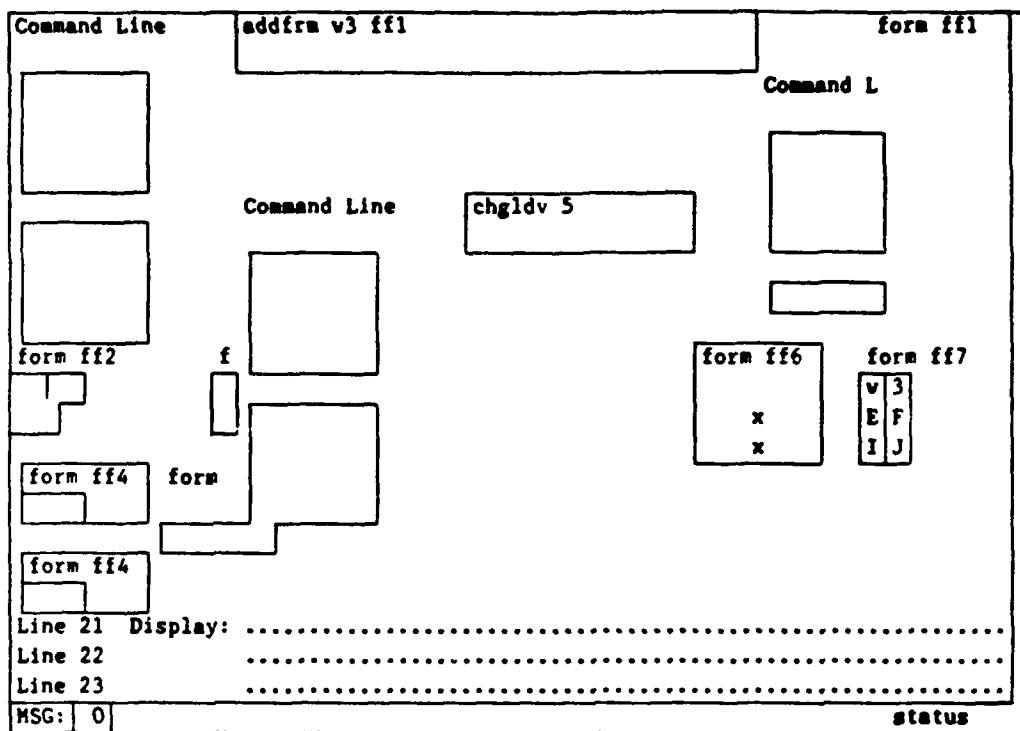


Figure 5-51c Return LDV Result

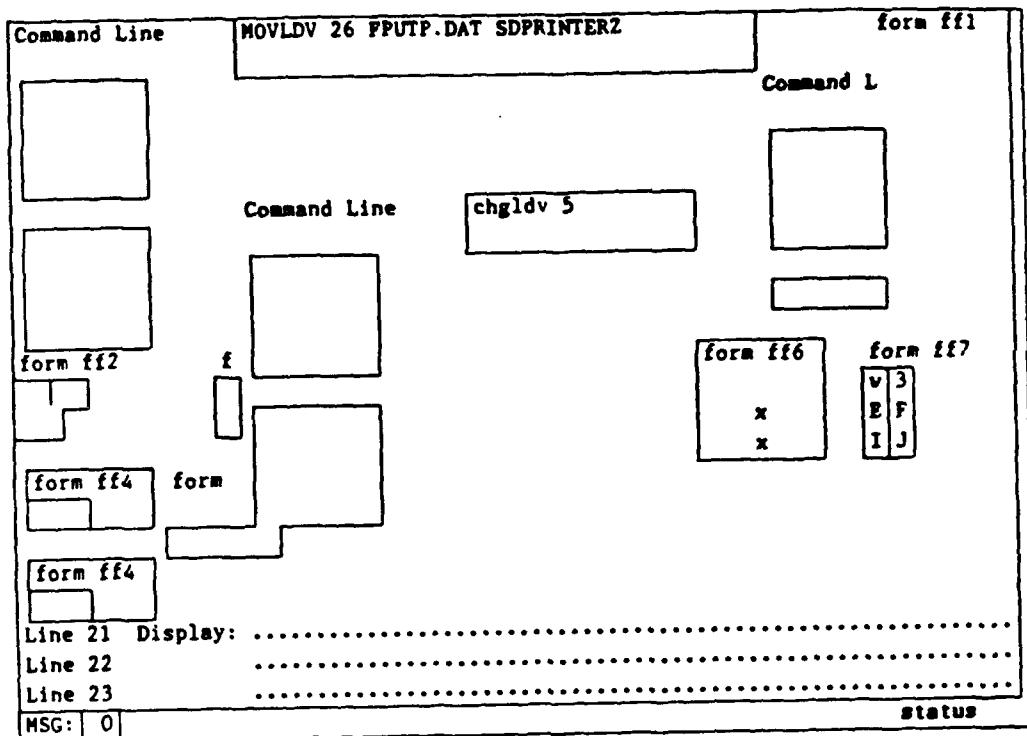


Figure 5-52a Test MOVLDV

Enter MOVLDV information in upper case.

Command Line	MOVLDV 26 FPUTP.DAT SDPRINTERZ	form ff1
Line 21 Display:	Line 22	Line 23
MSG: 0		status

Figure 5-52b MOVLDV Result

Press PF6 (APSTAT) to display Application Status Form.

Application Status														
Application	Device				Window Name	Location		Display		Viewport				
	Type	Name	Pri			Row	Col	V	D	Size	Offset	Row	Col	
SDARTEST2Z	SDPRINTERZ		FPUTP.DAT		SCREEN	1	1	80	24	0	0	0	0	
SDARTEST2Z						1	1	79	23	0	0	0	0	
SDARTEST2Z						3	45	0	0	0	0	0	0	
SDARTEST2Z						3	60	10	8	0	0	0	0	
SDARTEST2Z	VT100		TT:			1	1	80	23	0	0	0	0	
SDARTEST2Z						1	1	79	70	0	0	0	0	
SDARTEST2Z						3	45	0	0	0	0	0	0	
SDARTEST2Z						3	60	10	8	0	0	0	0	
SDARTEST2Z						3	45	0	0	0	0	0	0	
SDARTEST2Z						3	60	10	8	0	0	0	0	
MENU	VT100		TT:		2	1	1	80	23	0	0	0	0	
MSG:	0		status											

Figure 5-52c Application Status Form

Application Status											
Application	Type	Device		Window Name	Name	Location		Display		Viewport	
		Pri	Name			Row	Col	U	D	Row	Col
SDARTESTZZ				1		1	1	80	24	0	0
SDARTESTZZ				SCREEN		1	1	79	23	0	0
SDARTESTZZ				VNP		3	45	0	0	0	0
SDARTESTZZ				V3		3	60	10	8	0	0
SDARTESTZZ		VT100	TT:	2		1	1	80	23	0	0
SDARTESTZZ				SCREEN		1	1	79	70	0	0
SDARTESTZZ				VNP		3	45	0	0	0	0
SDARTESTZZ				V3		3	60	10	8	0	0
SDARTESTZZ				VNP		3	45	0	0	0	0
SDARTESTZZ				V3		3	60	10	8	0	0
MENU	VT100	TT:		3		1	1	80	23	0	0
MSG: 0										status	

Figure 5-53a Return LDV

Change form as shown and press <ENTER>.

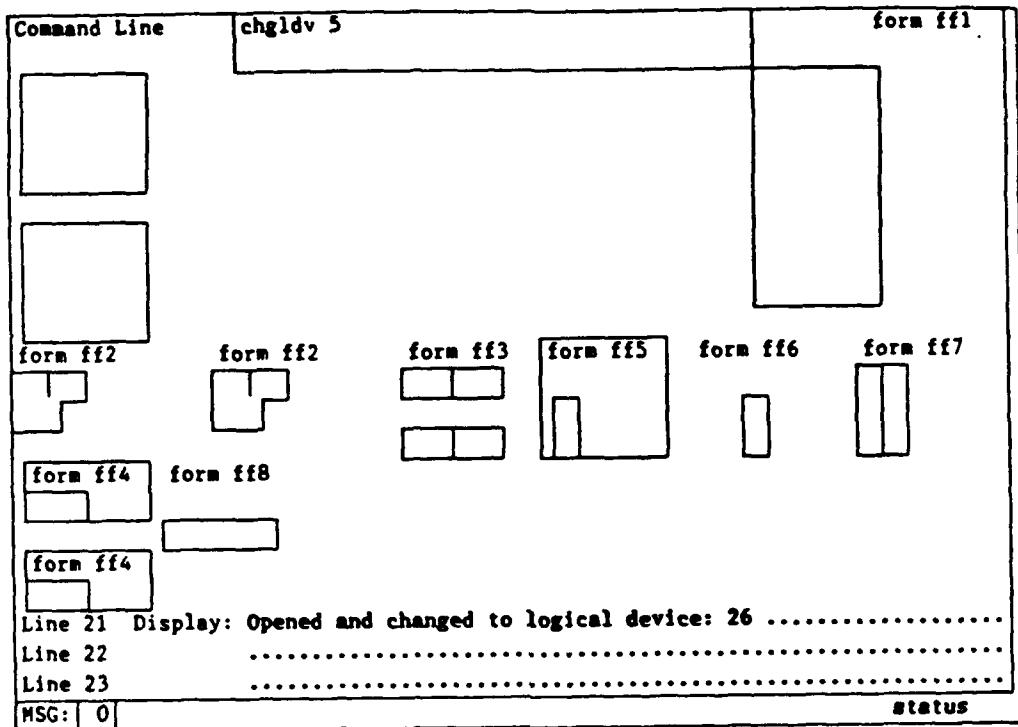


Figure 5-53b Return LDV Result

Press <MODE> key to get into window manager mode and press PF14 <SELECT AP>.

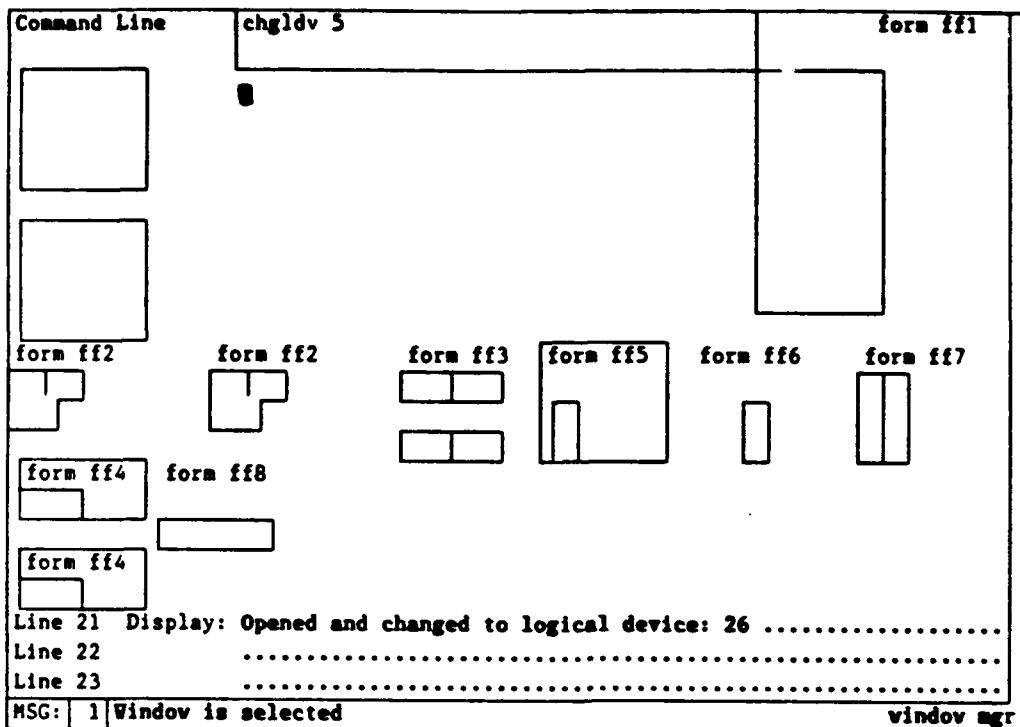


Figure 5-53c Change LDV Location

Position cursor 2 lines below the Command Line as shown and press PF10 <LOCATION>.

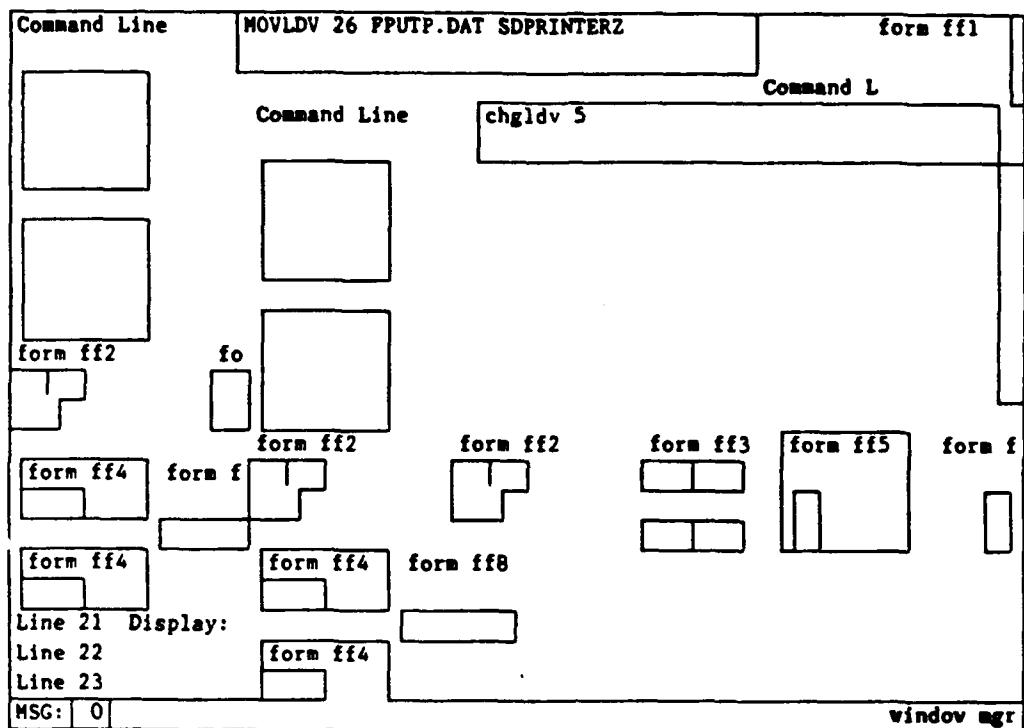


Figure 5-53d Change Location Result

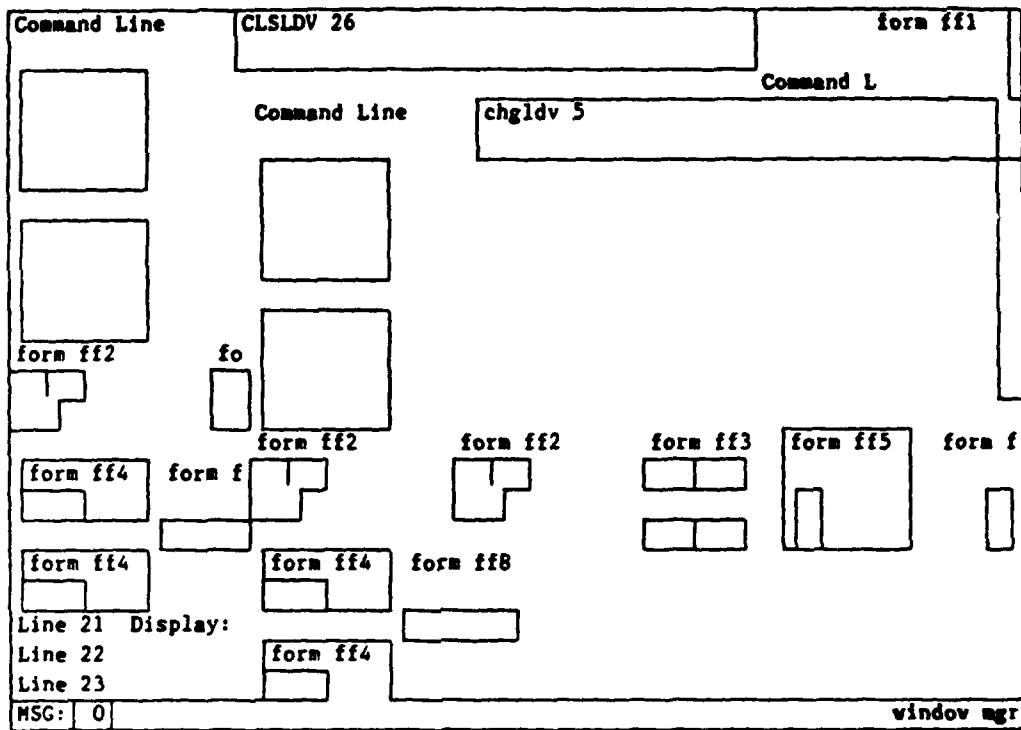


Figure 5-54a Test CLSLDV

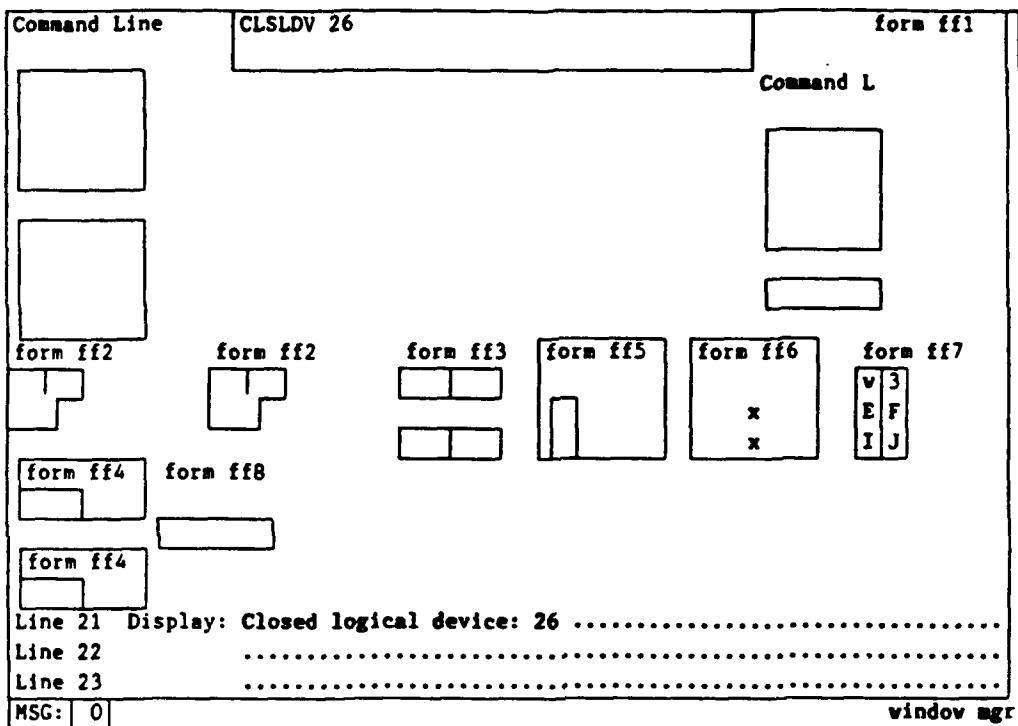


Figure 5-54b CLSLDV Result

Press PF13 <FUNCTION>.

I I S S T E S T B E D V E R S I O N 2.3			
Date: 11/30/87	Time: 13:01:41	User ID: MORENC	Role: <input type="text" value="MANAGER"/>
Function: <input type="text"/>	Device Type: <input type="text"/>	Device Name: <input type="text"/>	
MSG: <input type="checkbox"/> Window is selected		window mgr	

Figure 5-54c IISS Function Screen

I S S T E S T B E D V E R S I O N 2.3			
Date: 11/30/87	Time: 13:01:41	User ID: MORENC	Role: <input type="text" value="MANAGER"/>
Function: <input type="text" value="MM"/>	Device Type: <input type="text"/>	Device Name: <input type="text"/>	
MSG: <input type="checkbox"/> Window is selected		window mgr	

Figure 5-55a Start MM

I I S S T E S T B E D V E R S I O N 2.3			
Date: 11/30/87	Time: 13:01:45	User ID: MORENC	Role: <input type="button" value="MANAGER"/>
Function: <input type="text"/>	Device Type: <input type="text"/>	Device Name: <input type="text"/>	
MSG: <input type="text" value="0"/>		window mgr	

Figure 5-55b IISS Function Screen

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I I S S T E S T B E D V E R S I O N 2.3			
Date: 11/30/87	Time: 13:01:45	User ID: MORENC	Role: <input type="button" value="MANAGER"/>
Function: <input type="button" value="TE"/>	Device Type: <input type="button"/>	Device Name: <input type="button"/>	
MSG: <input type="button" value="0"/>		window mgr	

Figure 5-56a Start TE

I I S S T E S T B E D V E R S I O N 2.3			
Date: 11/30/87	Time: 13:01:50	User ID: MORENC	Role: <input type="text" value="MANAGER"/>
Function: <input type="text"/>	Device Type: <input type="text"/>	Device Name: <input type="text"/>	
MSG: <input type="text" value="0"/>		window mgr	

Figure 5-56b IISS Function Screen

Press PF12 <UNSELECT AP>.

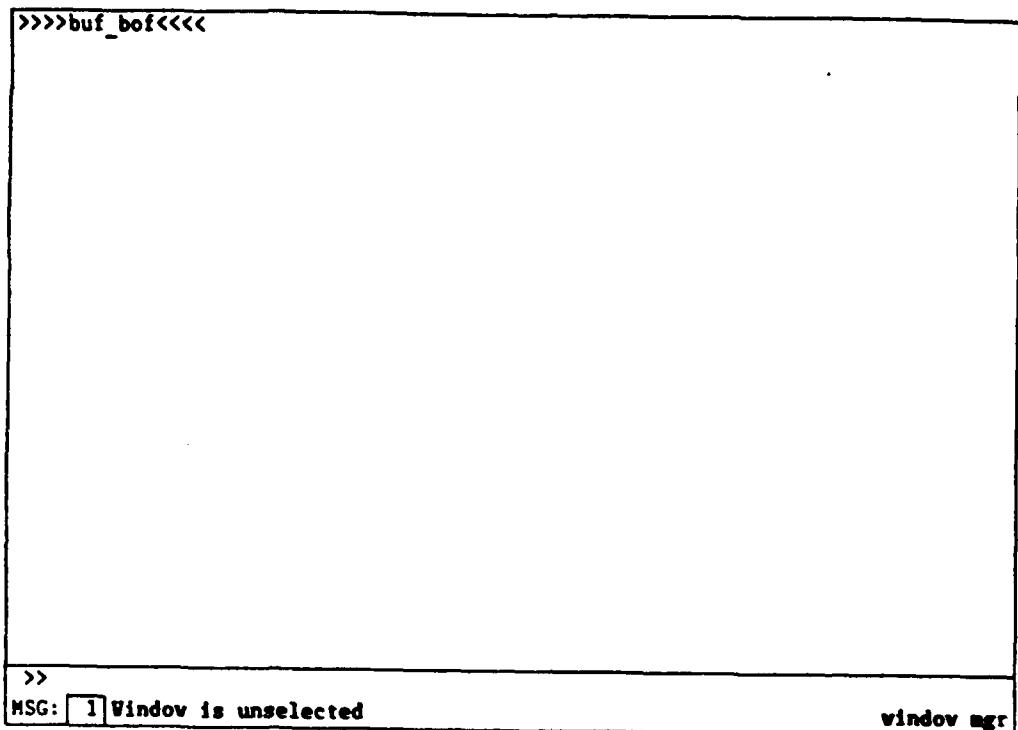


Figure 5-56c TE Screen

Press <MODE> key to get into status mode and press PF6 to display Application Status Form.

Application Status											
Application	Type	Name	Pri	Device	Window	Location	Display	Viewport			
						Row	Col	Size	Offset		
Row	Col	W	D	Row	Col						
SDTEZZZZZZ	VT100	TT:	1		SCREEN	1	1	80	23	0	0
SDTEZZZZZZ						1	1	80	23	0	0
SDMNZZZZZZ	VT100	TT:	2		SCREEN	1	1	80	23	0	0
SDMNZZZZZZ						1	1	79	16	0	0
SDARTESTZZ	VT100	TT:	3		SCREEN	1	1	80	23	0	0
SDARTESTZZ						1	1	79	69	0	0
SDARTESTZZ					VNP	3	45	0	0	0	0
SDARTESTZZ					V3	3	60	10	8	0	0
SDARTESTZZ					VNP	3	45	0	0	0	0
SDARTESTZZ					V3	3	60	10	8	0	0
MENU	VT100	TT:	4			1	1	80	23	0	0

MSG: status

Figure 5-56d Abort TE

Position cursor on 'VT100' in SDTEZZZZZZ line and press PF8 <ABORT>.

Application Status									
Application	Type	Device		Window Name	Location Row Col	Display Size		Viewport Offset	
		Name	Pri			V	D	Row	Col
SDTEZZZZZZ	VT100	TT:	1	SCREEN	1 1	80	23	0	0
SDTEZZZZZZ				SCREEN	1 2	80	23	0	0
SDMMZZZZZZ	VT100	TT:	2	SCREEN	1 1	80	23	0	0
SDMMZZZZZZ				SCREEN	1 1	79	16	0	0
SDARTESTZZ	VT100	TT:	3	SCREEN	1 1	80	23	0	0
SDARTESTZZ				SCREEN	1 1	79	69	0	0
SDARTESTZZ				VNP	3 45	0	0	0	0
SDARTESTZZ				V3	3 60	10	8	0	0
SDARTESTZZ				VNP	3 45	0	0	0	0
SDARTESTZZ				V3	3 60	10	8	0	0
MENU	VT100	TT:	4		1 1	80	23	0	0
MSG: 1 Application: SDTEZZZZZZ was signaled to abort								status	

Figure 5-56e Abort Result

Press <ENTER>.

Application Status									
Application	Type	Name	Pri	Device		Location	Display	Viewport	
				Window	Name			Row	Col
SDM01ZZZZZZ	VT100	TT:	1			1	1	80	23
SDM01ZZZZZZ				SCREEN		1	1	79	16
SDARTESTZZ	VT100	TT:	2			1	1	80	23
SDARTESTZZ				SCREEN		1	1	79	69
SDARTESTZZ				VNP		3	45	0	0
SDARTESTZZ				V3		3	60	10	8
SDARTESTZZ				VNP		3	45	0	0
SDARTESTZZ				V3		3	60	10	8
MENU	VT100	TT:	3			1	1	80	23

MSG: status

Figure 5-57a Application Status Form after Aborting TE

Press <QUIT>.

Error Message Definition Screen		

Message Base Number: <input type="text"/>		
Number	MSG Name	Description
<input type="text"/>	<input type="text"/>	<input type="text"/>
MSG: <input type="text" value="0"/>		status

Figure 5-57b Abort MM

Press PF8 <ABORT> and wait for screen to repaint.

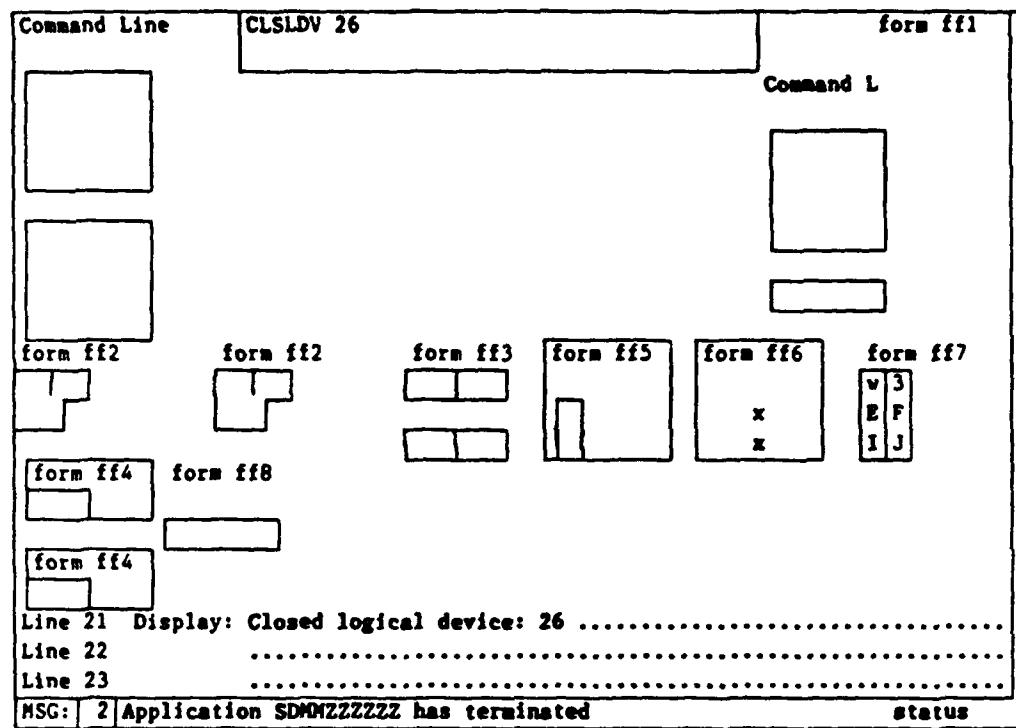


Figure 5-58a Abort Result

Press <QUIT>.

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I I S S T E S T B E D V E R S I O N 2.3			
Date: 11/30/87	Time: 13:02:22	User ID: MORENC	Role: <input type="text" value="MANAGER"/>
Function: <input type="text"/>	Device Type: <input type="text"/>	Device Name: <input type="text"/>	
MSG: <input type="text" value="3"/> Application SDARTESTZZ has terminated		status	

Figure 5-58b IISS Function Screen

I I S S T E S T B E D V E R S I O N 2.3			
Date: 11/16/87	Time: 9:38:05	User ID: SYSMGR	Role: <input type="text" value="SYSMGR"/>
Function: <input type="text" value="artest"/>	Device Type: <input type="text"/>	Device Name: <input type="text"/>	
MSG: <input type="text" value="0"/>		application	

Figure 5-59a Restart ARTEST Application

Enter "ARTEST" as shown and press <ENTER>.

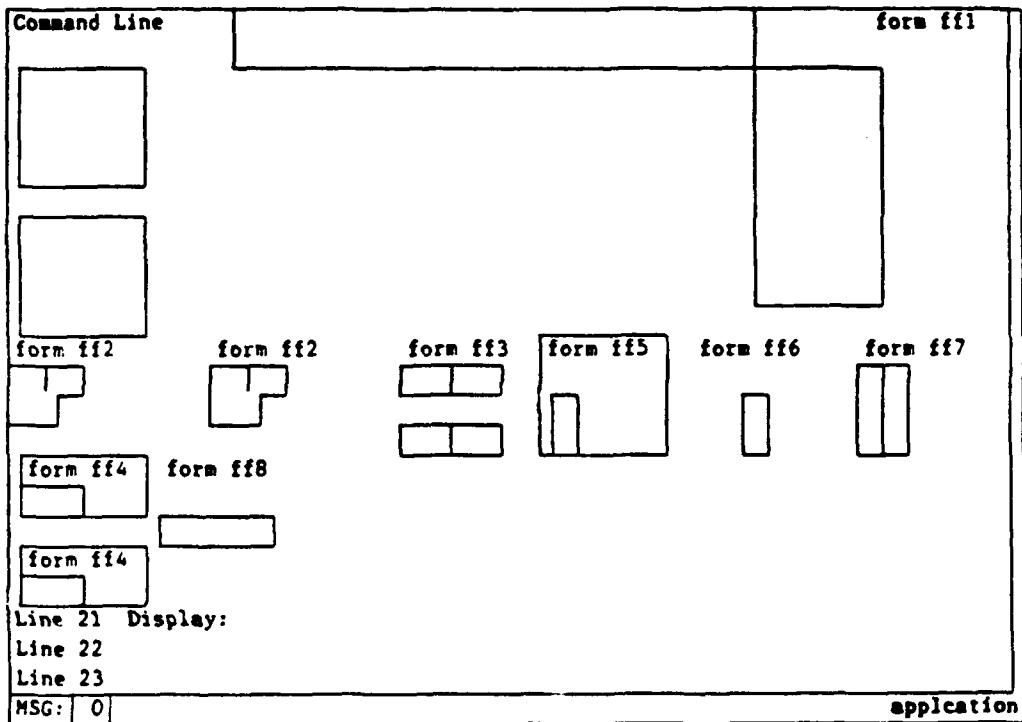


Figure 5-59b First ARTEST Screen

Command Line	addfld ff4 i2 1 input 1 1 ; 1 1 1 ; 1 1 6	form ff1			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
form ff4					
Line 21	Display:				
Line 22	.....			
Line 23	.....			
MSG: 0					application

Figure 5-60a ADDFLD Test Case 1

Create a new input item field named i2 of size 1 by 1 and add it to the form ff4. The fields position is offset 1 row and 2 columns from the upper left corner of the containing forms.

Command Line	addfld ff4 i2 1 input 1 1 ; 1 1 1 ; 1 1 6	form ff1
form ff2	form ff2	form ff3
form ff4	form ff8	form ff5
form ff4		form ff6
Line 21 Display:		
Line 22	.....
Line 23	.....
MSG: 0		application

Figure 5-60b Case 1 Result

Since the form ff4 is a repeating form field, the field i2 is added to both instances of the form.

Command Line	addfld ff4 i3 1 input 1 1 i2; 1 1 0 i2; 3 1 2	form ff1			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
Line 21	Display:				
Line 22	.....			
Line 23	.....			
MSG:	0				application

Figure 5-61a ADDFLD Test Case 2

Create a new input item field named i3 of size 1 by 1 and add it to the form ff4. The field is positioned relative to i2.

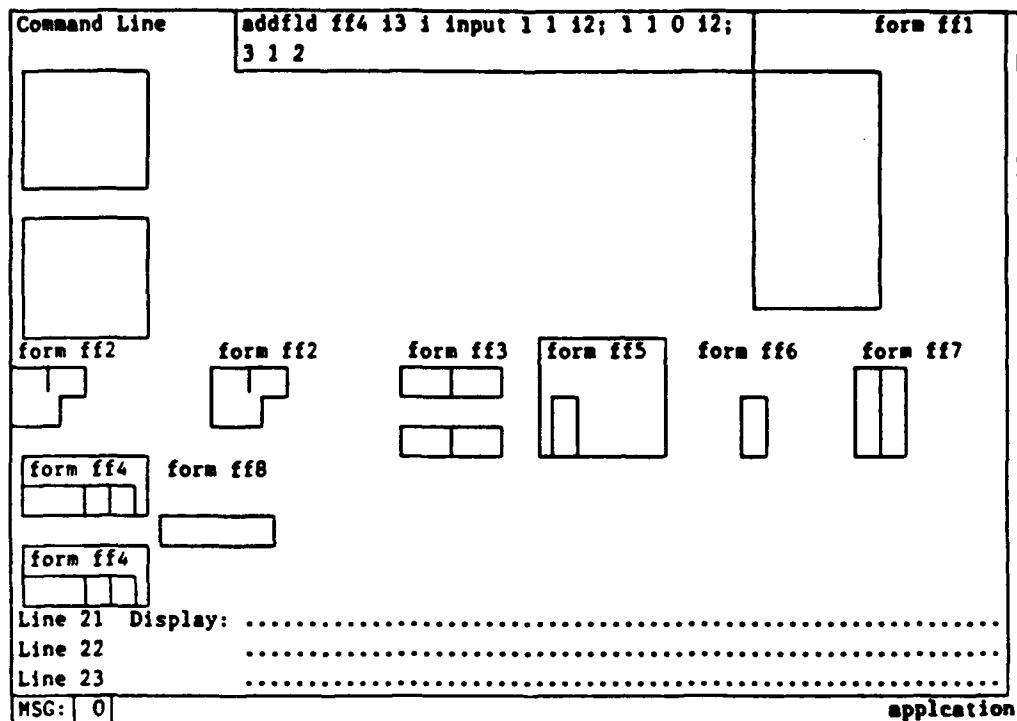


Figure 5-61b Case 2 Result

The field i3 appears to the right of i2 as specified.

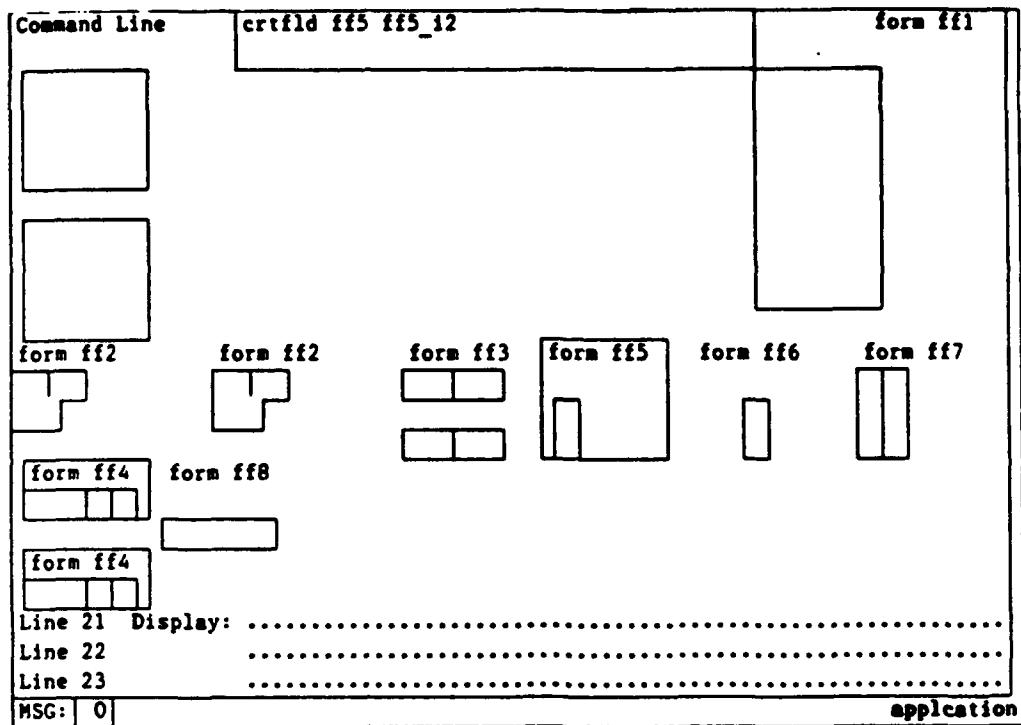


Figure 5-62a CRTFLD Test Case

Create a field named ff5_i2 on the form ff5. Define no other properties of the field at this time. There are no changes in the terminal screen at this time.

Command Line	setloc ff5 ff5_i2 ; 1 1 2 ; 1 1 5	form ff1			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
form ff4					
Line 21	Display:				
Line 22	.....			
Line 23	.....			
MSG: 0					application

Figure 5-62b Specify Field Location

Use SETLOC to define the location of ff5_i2 to be offset 2 rows and 3 columns from the upper left corner of the containing form.

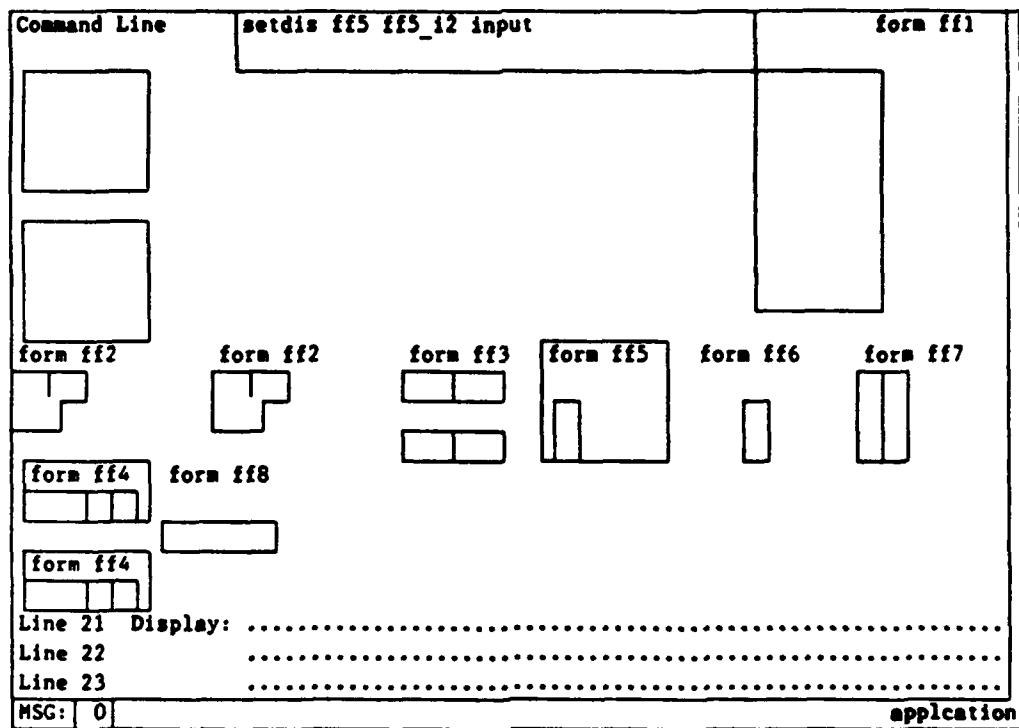


Figure 5-62c Specify Field Display Attribute

Use SETDIS to define the display attribute of the field ff5_i2 to be input.

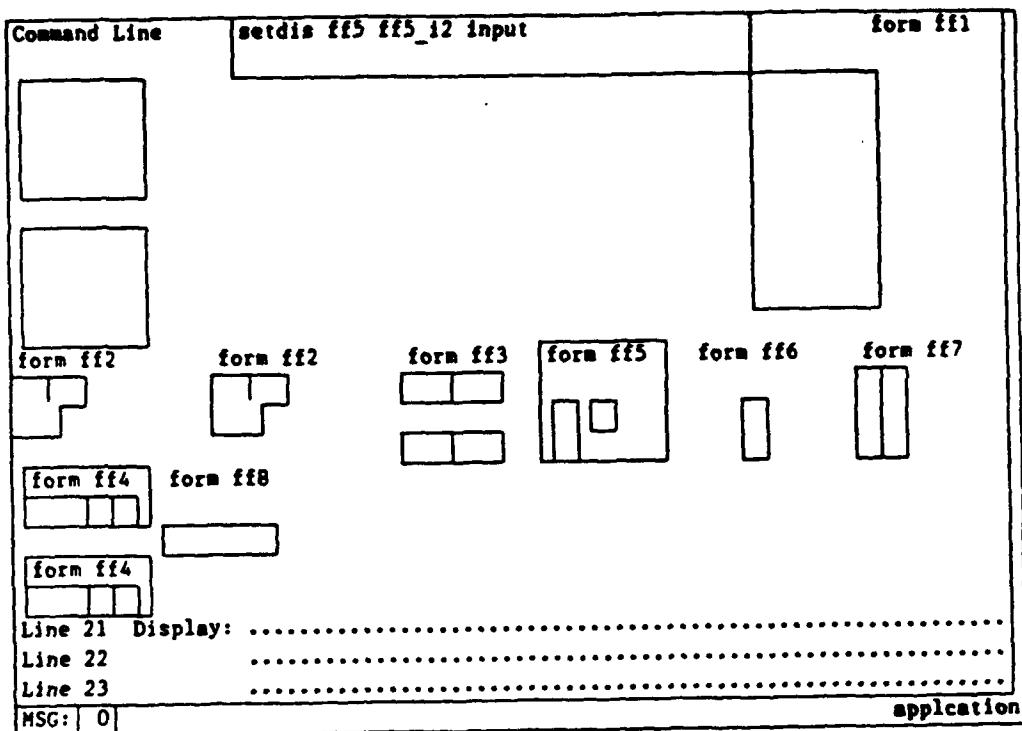


Figure 5-62d Test Case Result

The field is now visible on form ff5.

Command Line	repfld ff8 i1 ff5 i2	form ff1
	form ff2	
	form ff4	form ff3
	form ff8	
	form ff4	form ff5
Line 21 Display:	Line 22	form ff6
Line 23		form ff7
MSG: 0		application

Figure 5-63a REPFLD Test Case

Create a copy of the item field i1 on form ff8. Name the field i2 and attach it to form ff5 without giving it a location. There will be no changes on the terminal screen at this time.

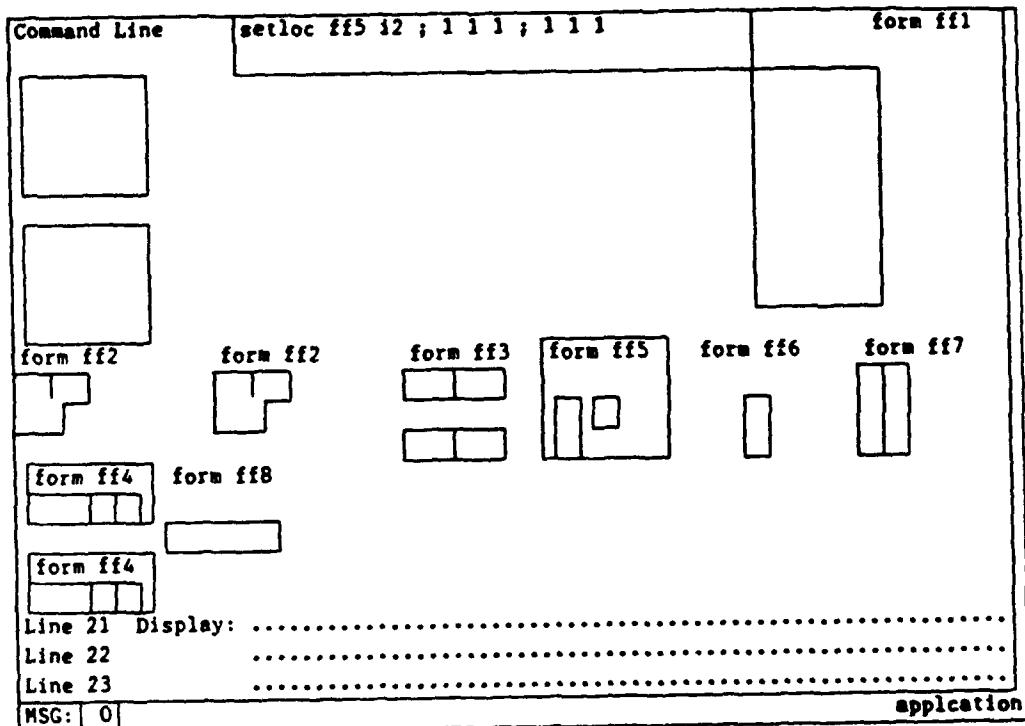


Figure 5-63b Specify an Absolute Field Location

Use SETLOC to position the field i2 on form ff5 1 row and 1 column from the upper left corner of ff5.

Command Line	setloc ff5 12 ; 1 1 1 ; 1 1 1	form ff1
Line 21 Display: .....	.....	.....
Line 22	.....	.....
Line 23	.....	.....
MSG: 0		application

Figure 5-63c Test Case Result

The field is now visible on form ff5.

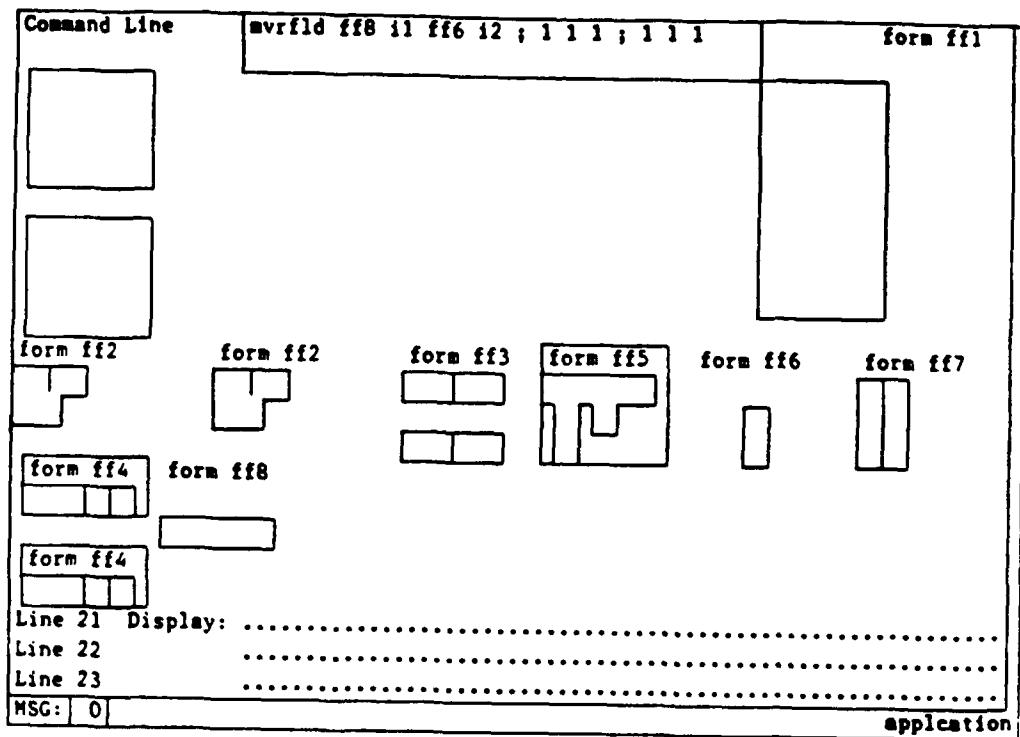


Figure 5-64a MVRFLD Test Case

Copy a field and define the position to be offset 1 row and 1 column from the origin of form ff6.

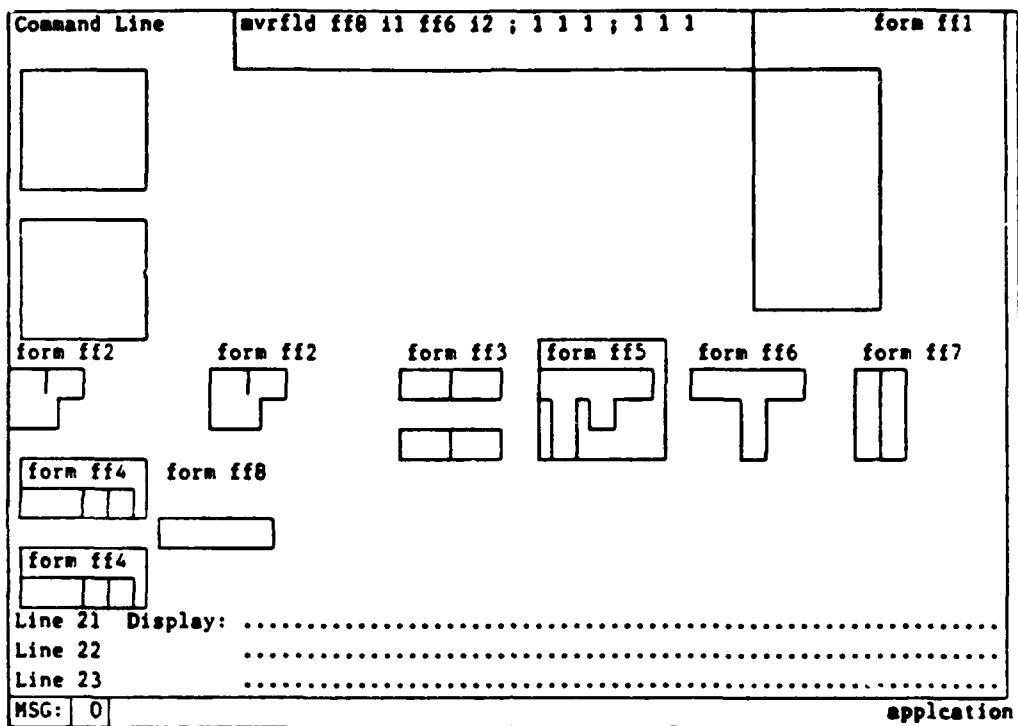


Figure 5-64b Test Case Result

The original field is i1 on form ff8. The copy is named i2 and now appears on the form ff6.

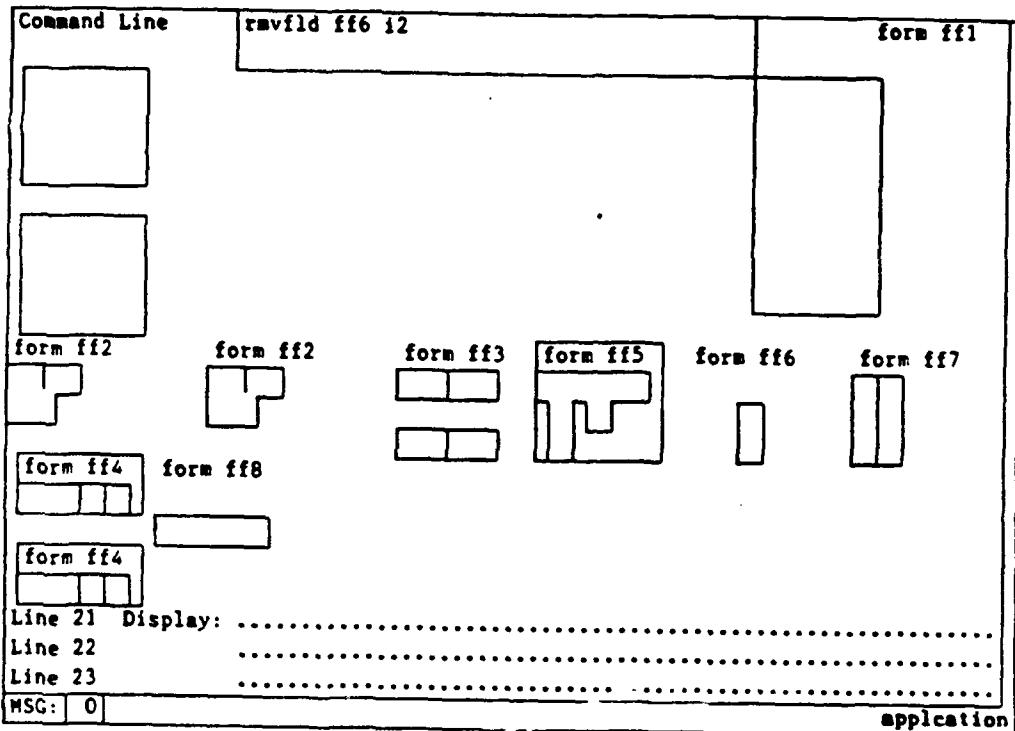


Figure 5-65 RMVFLD Test Case with Result

Remove field i2 from form ff6. The form ff6 appears as it did before calling MVRFLD.

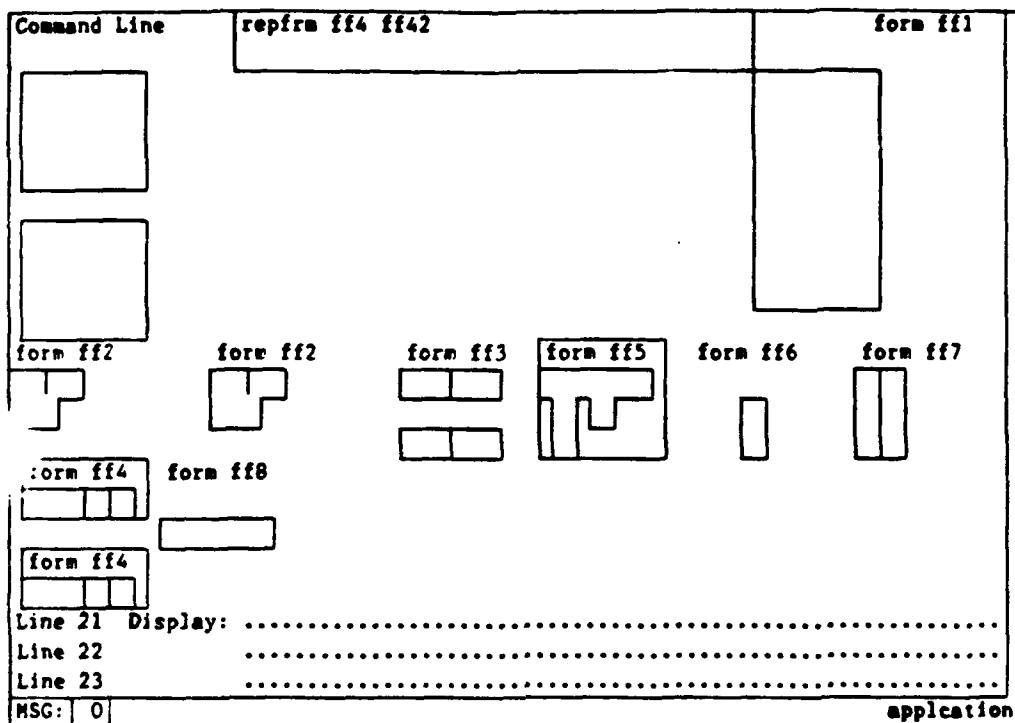


Figure 5-66a REPFRM Test Case

Create a copy of the form ff4 and call it ff42. There will be no changes on the terminal screen at this time.

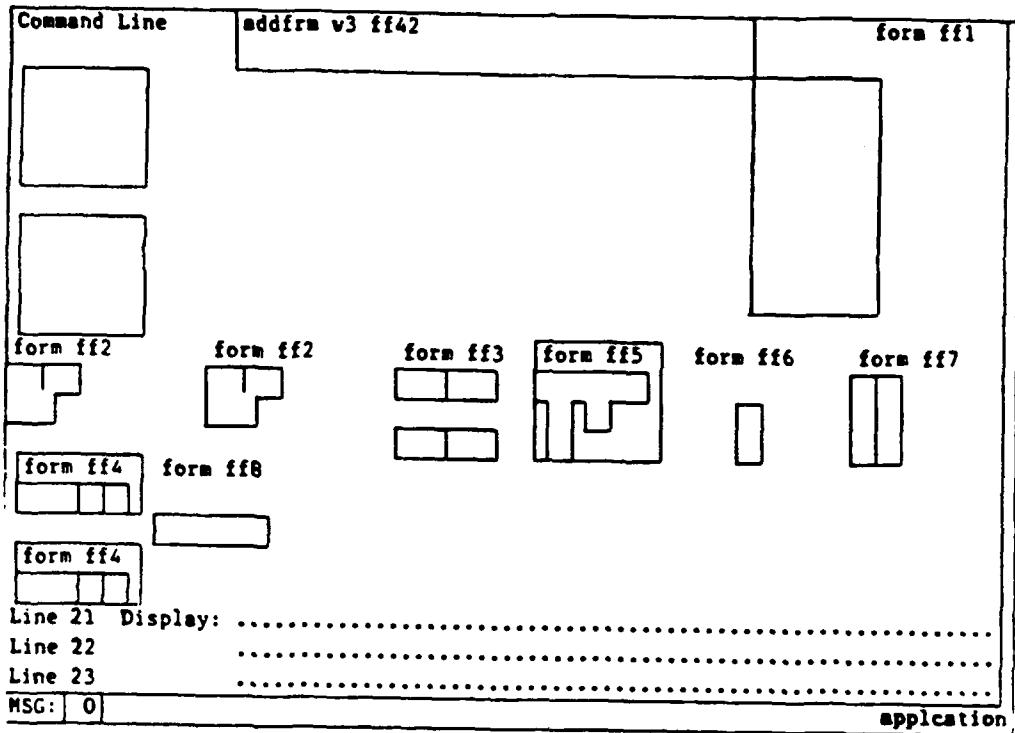


Figure 5-66b Test Case Result

The form is added to the window W3 so that it becomes visible and you can see that the form copy was actually created. Note that only a single instance of ff4 appears.

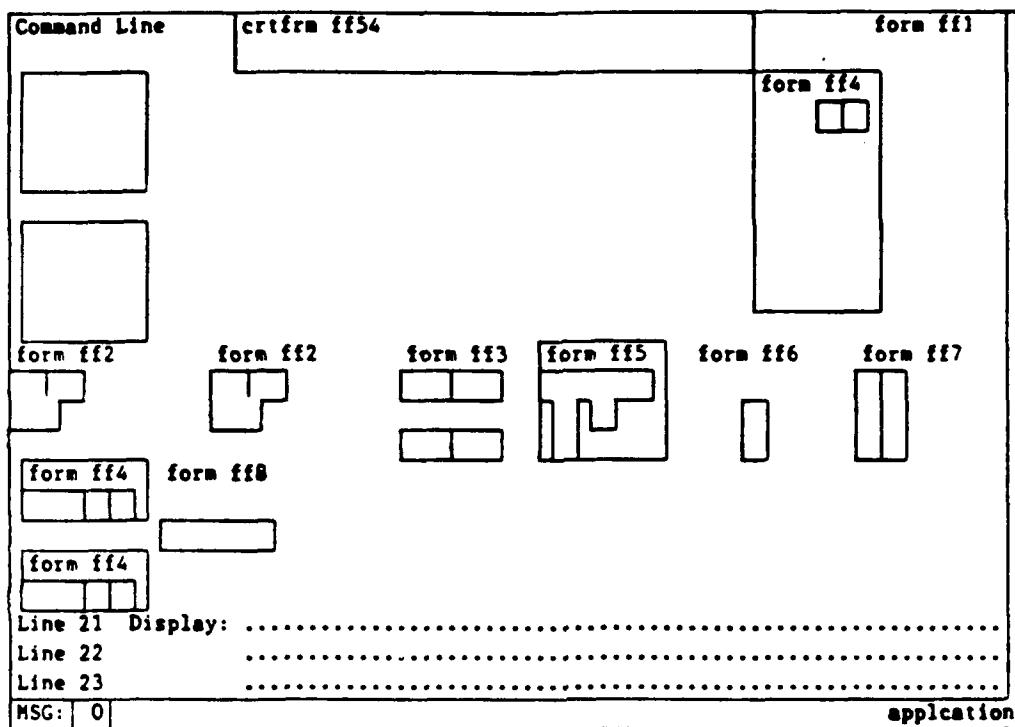


Figure 5-67a CRTFRM Test Case

Create a form named ff54. There will be no changes on the terminal screen at this time.

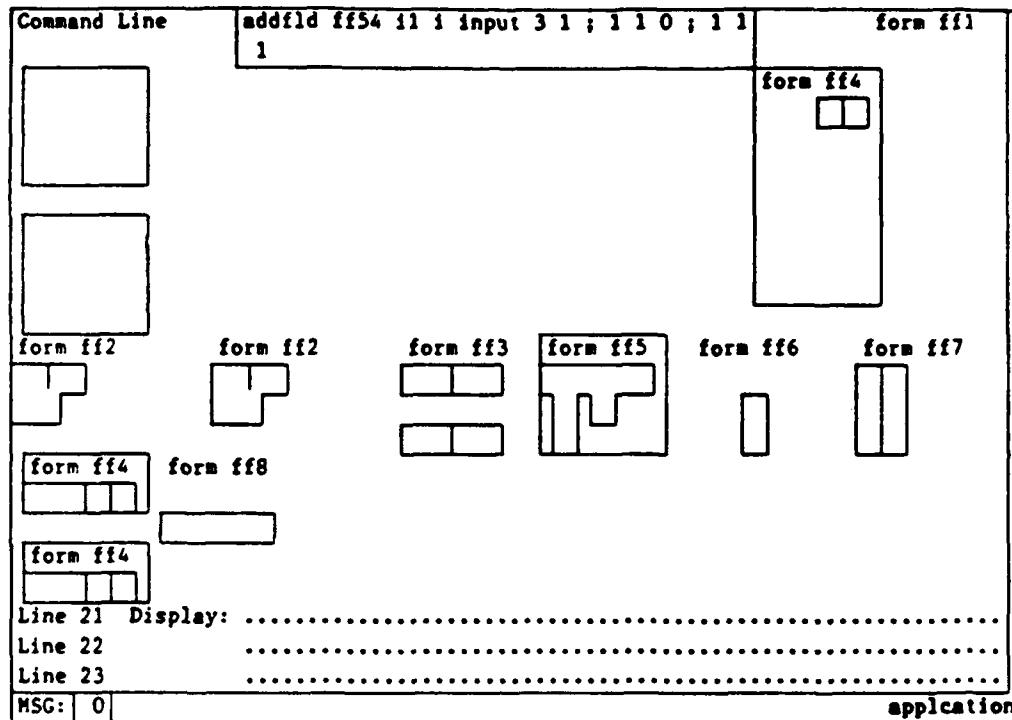


Figure 5-67b Add a Field to the Form

Use ADDFLD to add an input item field, il, to the form ff54. Its position is offset 0 rows and 1 column from the origin of ff54. There will be no changes on the terminal screen at this time.

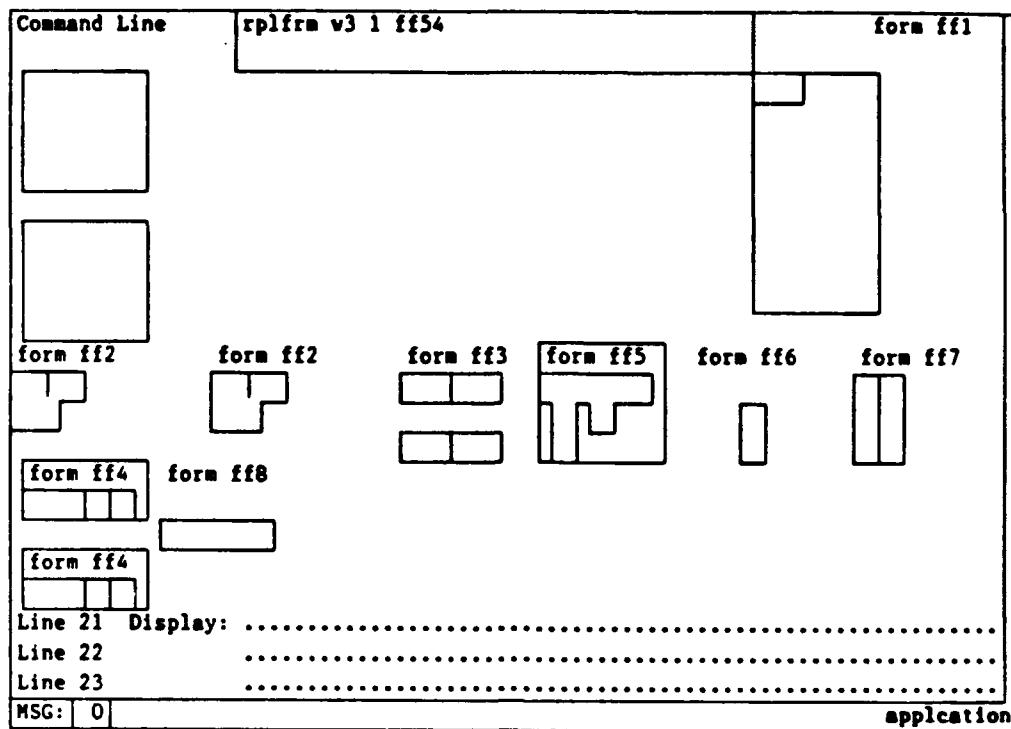


Figure 5-67c Test Case Result

The form is added to the window W3 so that it becomes visible and you can see that it was actually created.

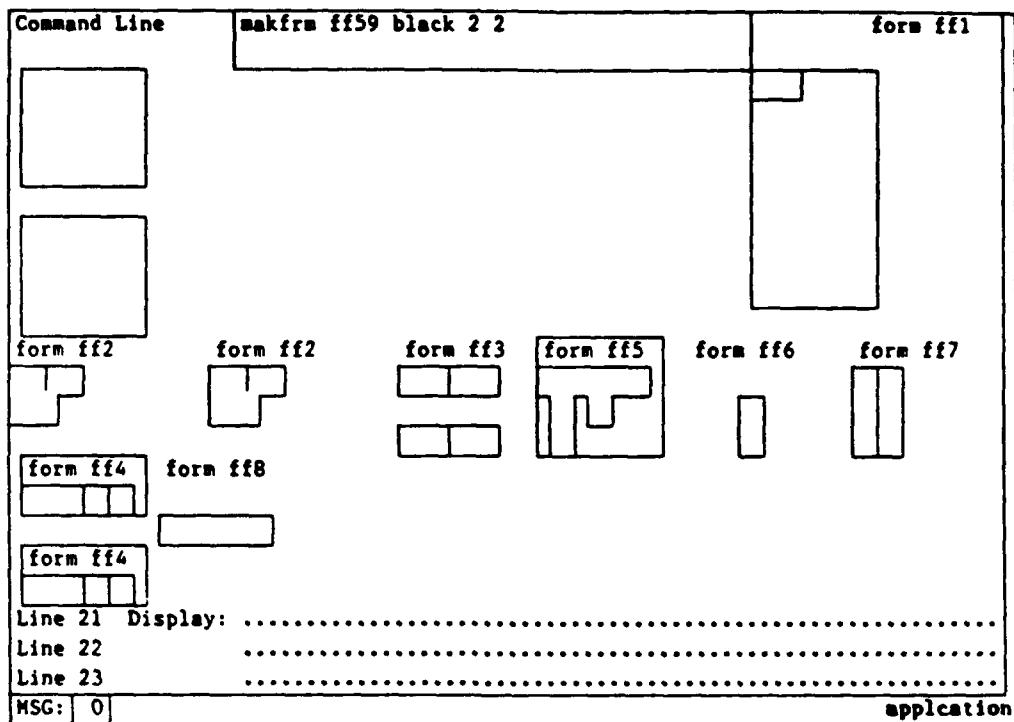


Figure 5-68a MAKFRM Test Case

Create a form named ff59 with a black background and a size of 2 by 2.

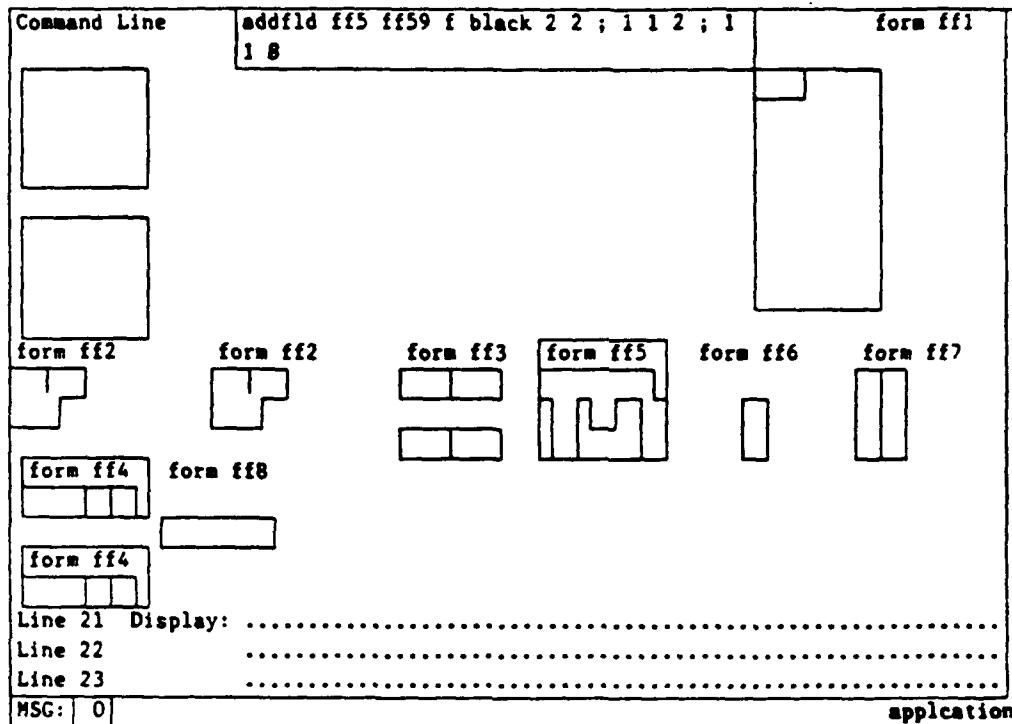


Figure 5-68b Test Case Result

The form ff59 is added as a form field to the form ff5 with a position offset 2 rows and 8 columns from the origin of ff5 to show that it was actually created.

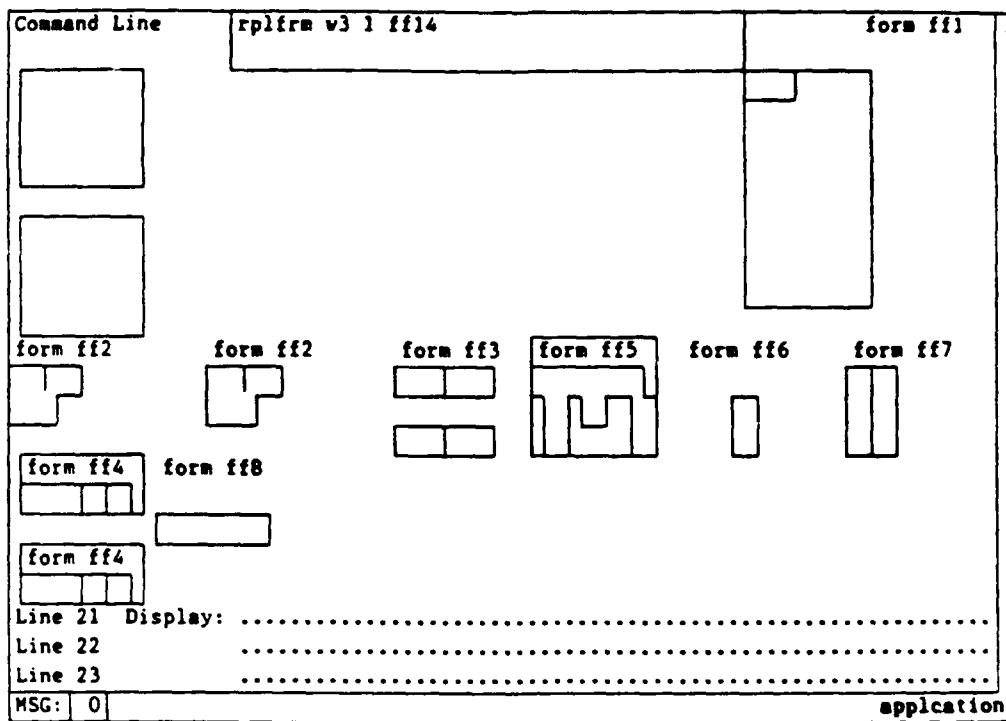


Figure 5-69a GDPFEX Test Preparation

Use RPLFRM to replace the current form in page 1 of w3 with form ff14.

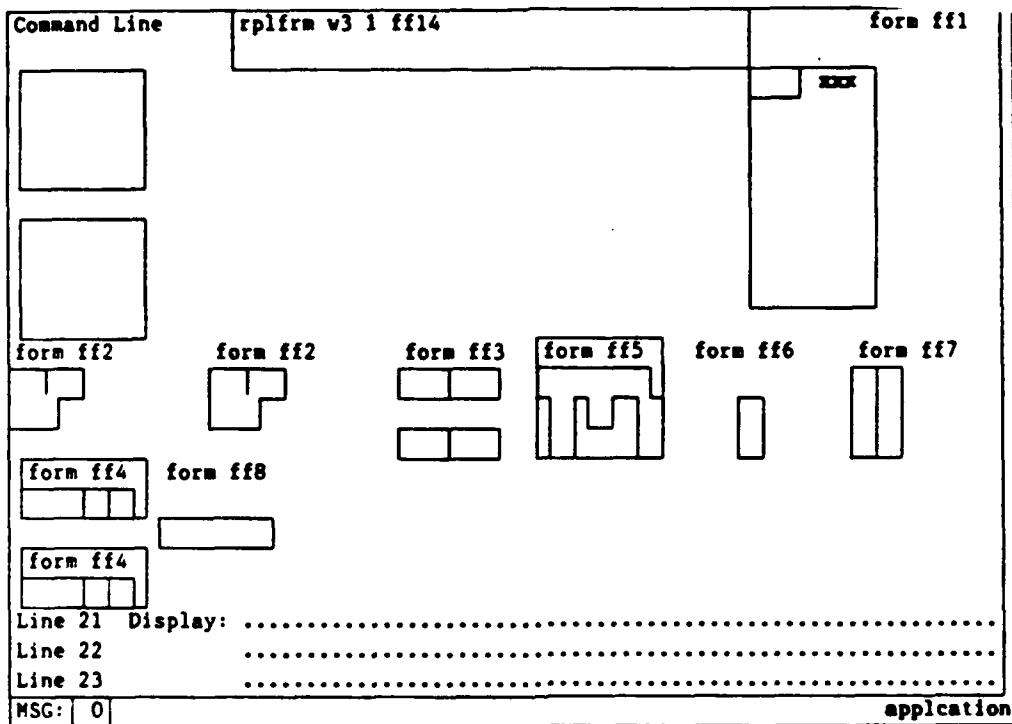


Figure 5-69b RPLFRM Result

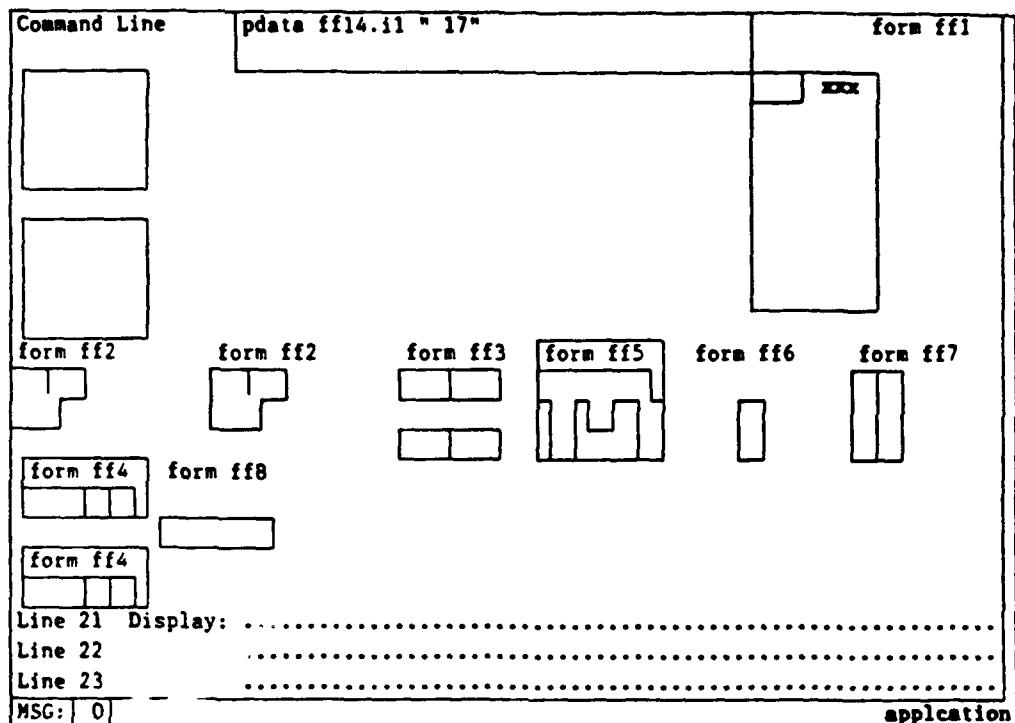


Figure 5-69c Set Value of Item i1

Use PDATA to set the value of the item field i1 on ff14 to "17".

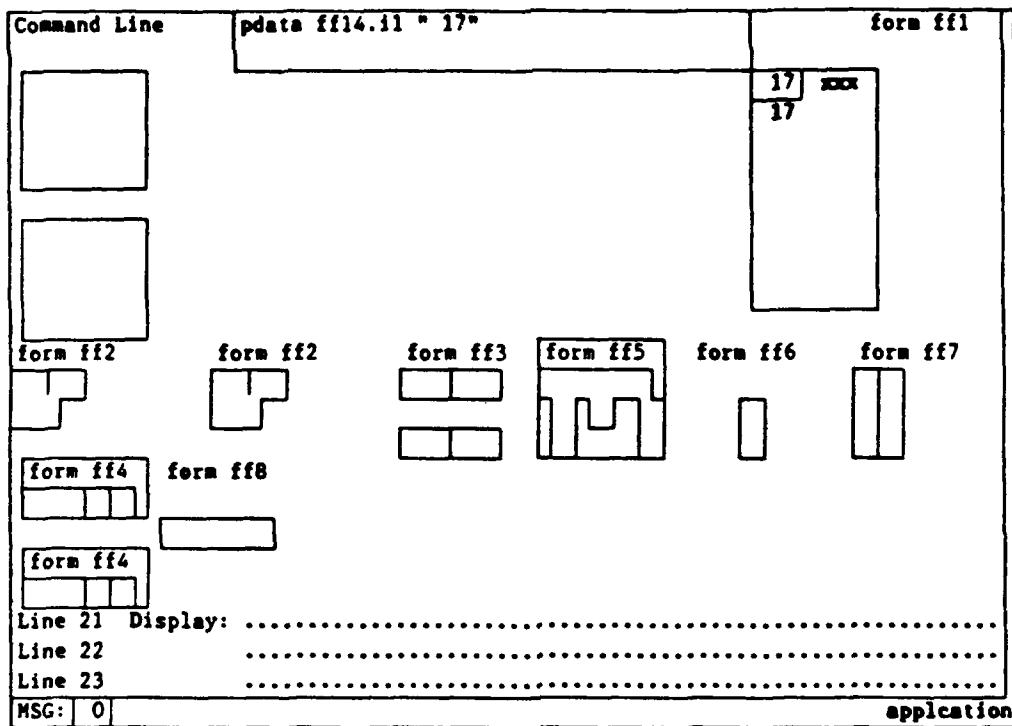


Figure 5-69d PDATA Result

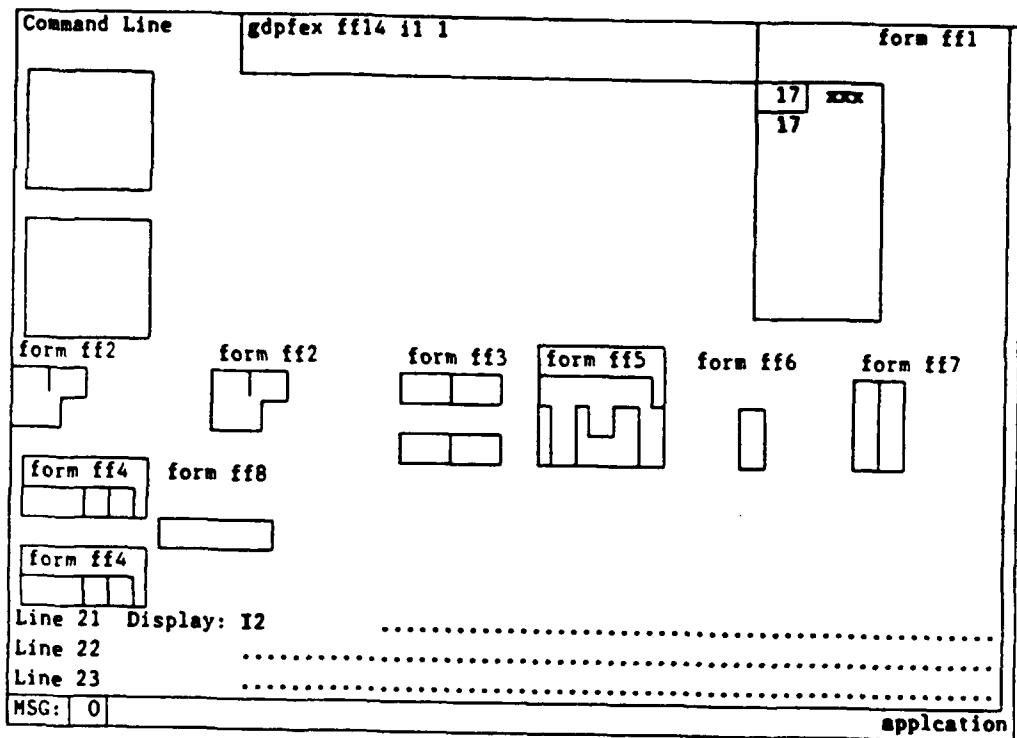


Figure 5-70a GDFPFE Test Case 1 with Result

Get the first field in the form ff14 which has a VALUE clause referring to the item field i1. It is i2.

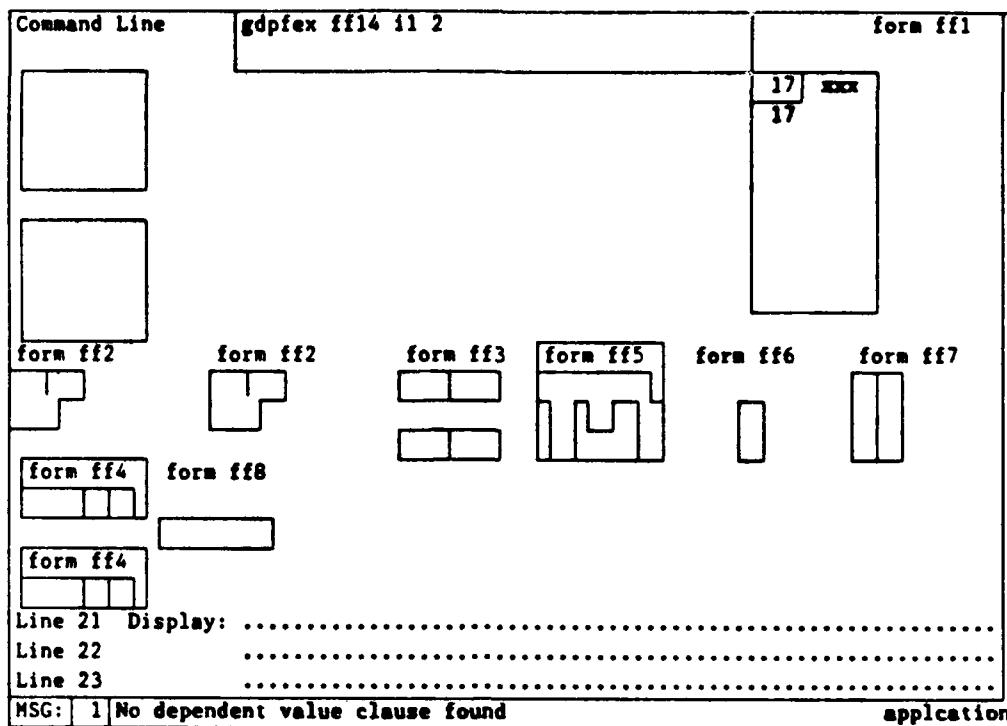


Figure 5-70b GDFPFE Test Case 2 with Result

Get the second field in the form ff14 which has a VALUE clause referring to the item field i1. There is no such field. The form ff14 only contains one field that has a value clause expression referring to item i1.

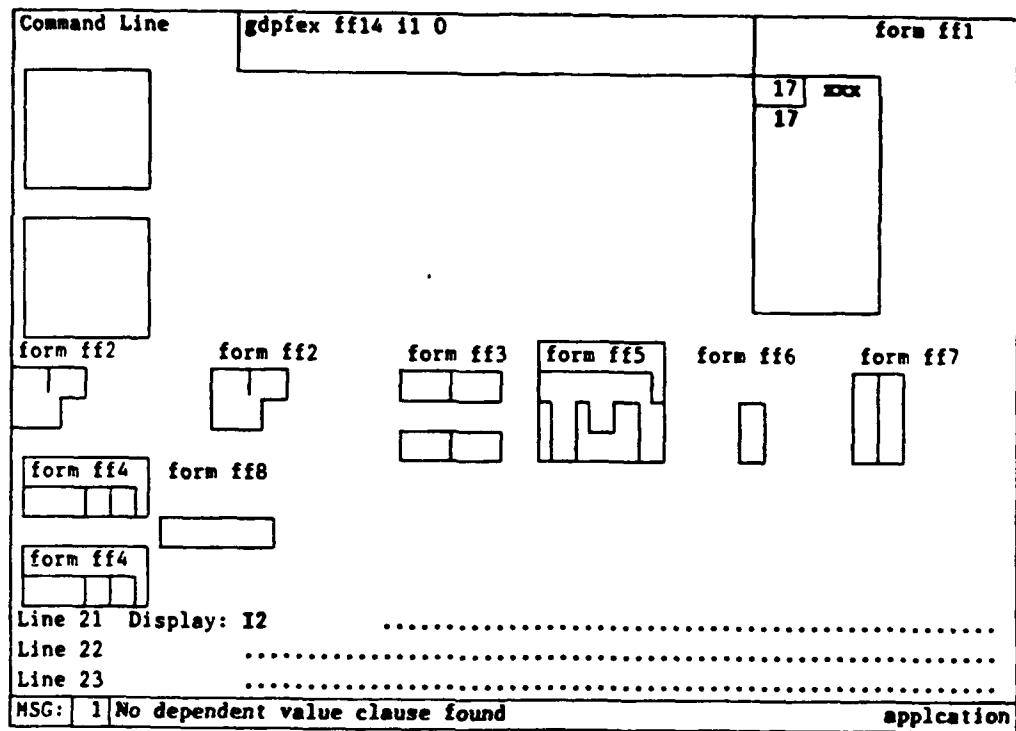


Figure 5-70c GDFPFE Test Case 3 with Result

Get the last field in the list of fields whose value depends on the item field i1. Since there is only one such field, i2, this field name is returned.

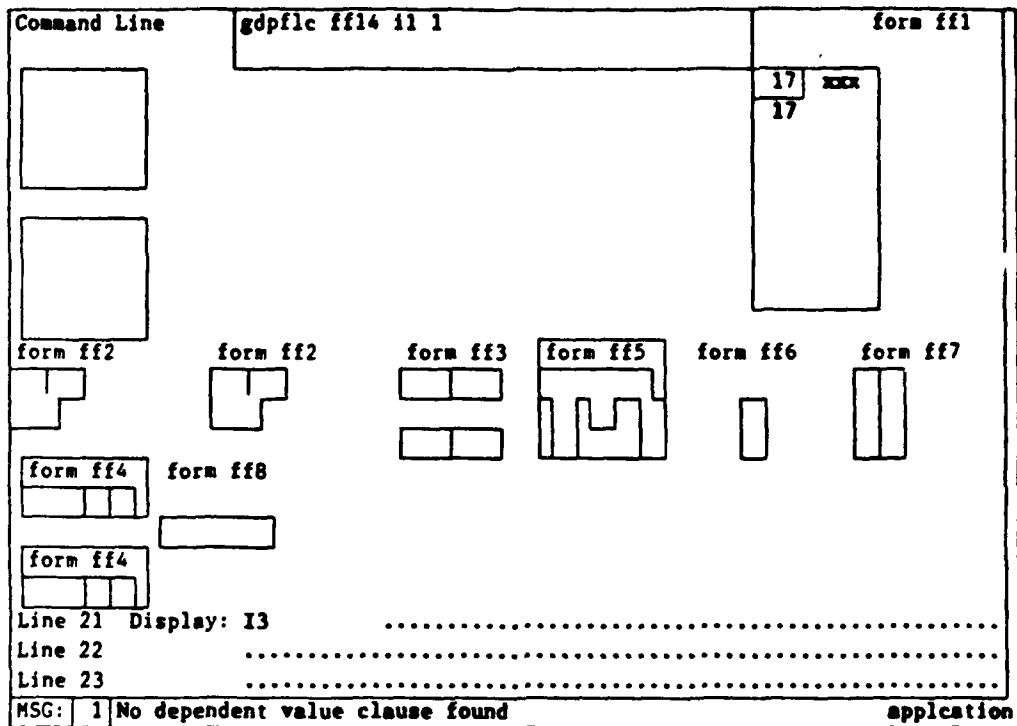


Figure 5-71 GDPFLC Test Case with Result

Get the first field in the form ff14 which has a location clause referring to the item field il. The first such field is i3. The location of i3 is relative to il.

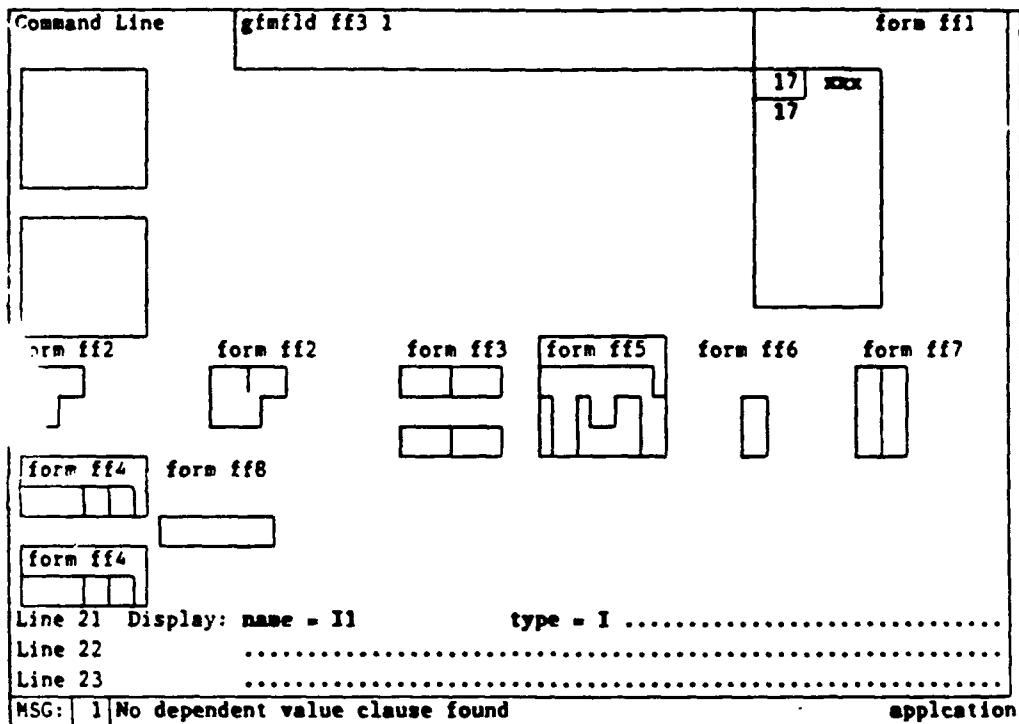


Figure 5-72a GFMFLD Test Case 1 with Result

Get the first field belonging to the form ff3. The name of this field is I1, and it is an item field.

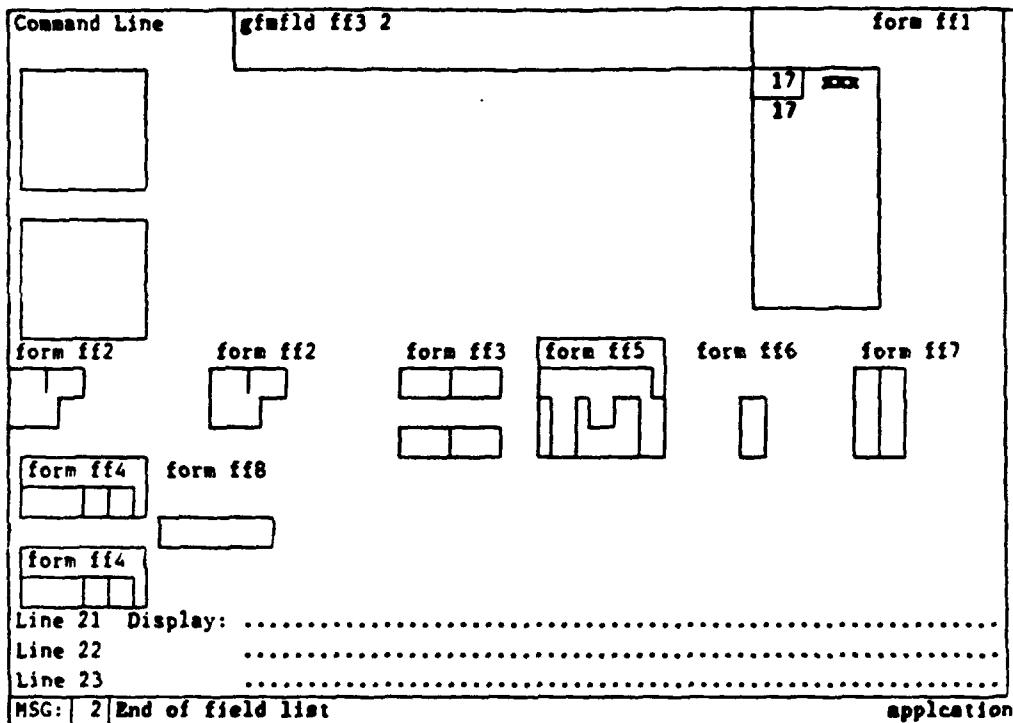


Figure 5-72b GFMFLD Test Case 2 with Result

Get the second field belonging to the form ff3. There is only one field in ff3 as the message shows.

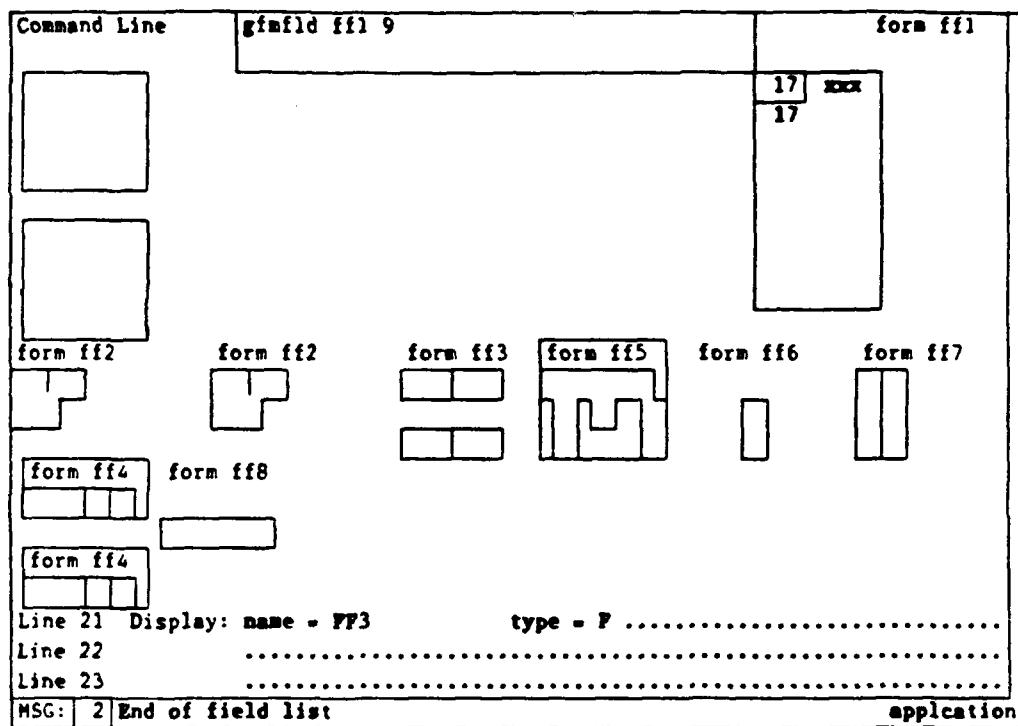


Figure 5-72c GFMFLD Test Case 3 with Result

Get the ninth field belonging to the form ff1. The name of this field is ff3, and it is a form field.

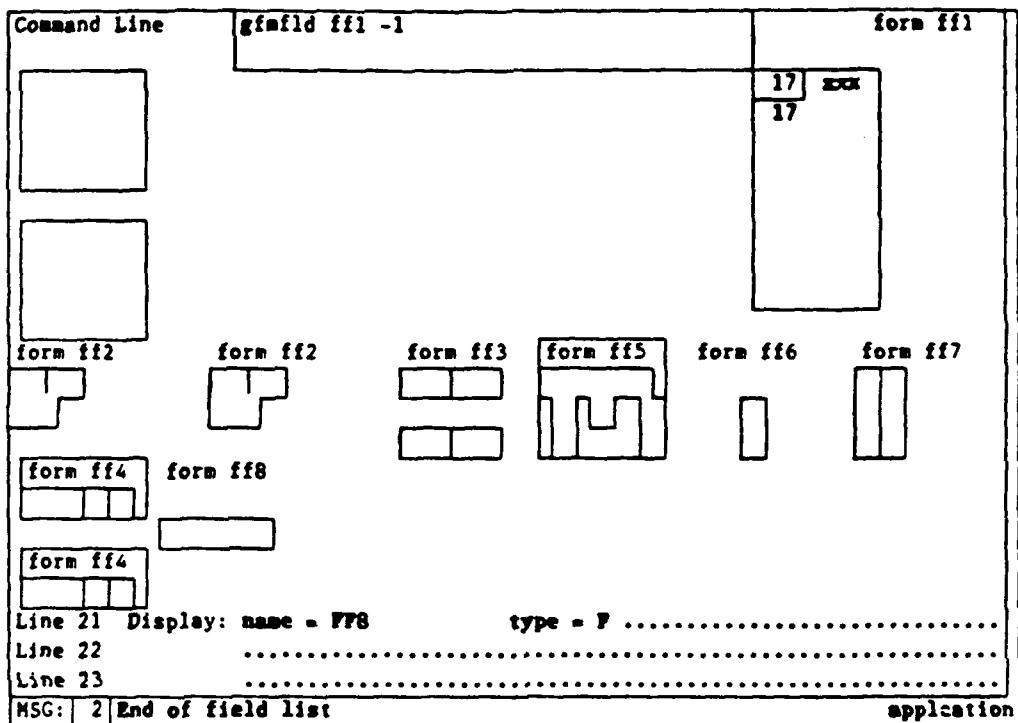


Figure 5-72d GFMFLD Test Case 4 with Result

Get the next to the last field belonging to the form ff1. The name of this field is ff8, and it is a form field.

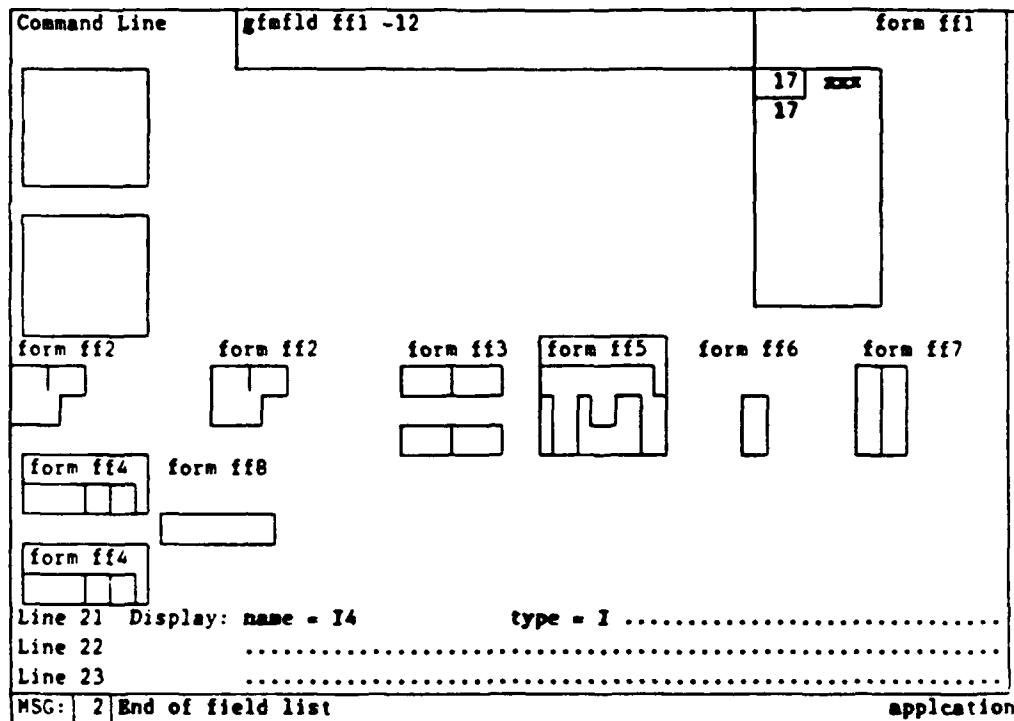


Figure 5-72e GFMFLD Test Case 5 with Result

Get the field belonging to the form ff1 which is twelfth from the last. The name of this field is i4, and it is an item field.

Co	Line	adddim ff8 11 2 2 v 0	form ff1

Figure 5-73a ADDDIM Test Case

Add a repeat specification to the item field `i1` in the form `ff8` which indicates that `i1` repeats vertically twice with no spaces and that both instances are actually displayed.

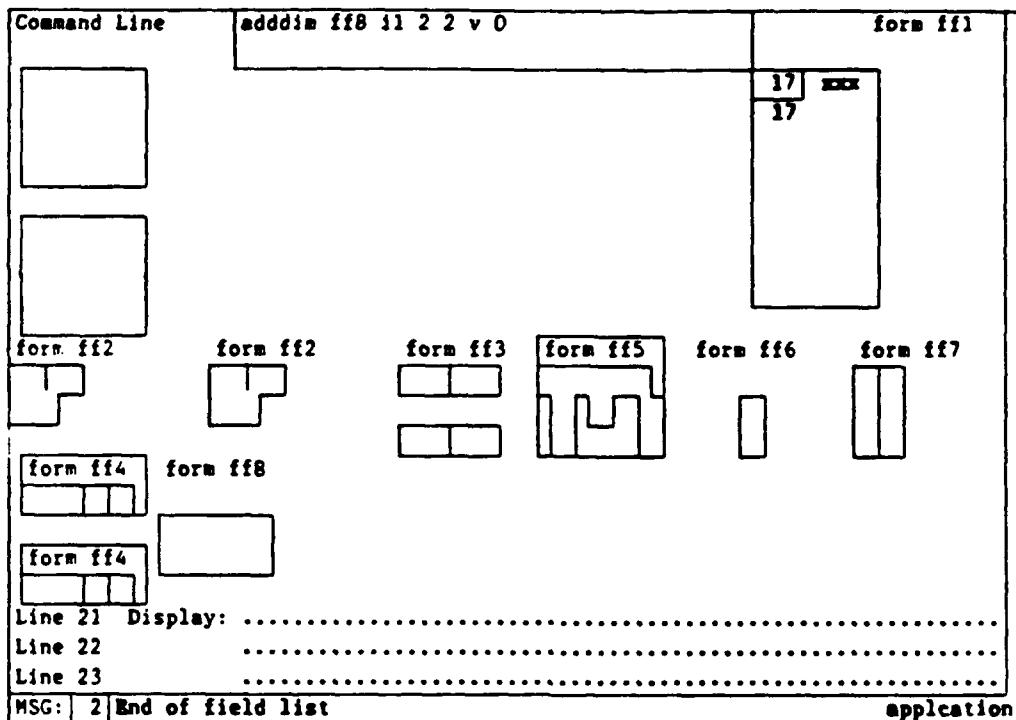


Figure 5-73b Test Case Result

The box below the "form ff8" shows the result of making `il` an array.

Command Line	<code>setdom ff8 i1 "right,numeric,maximum 20, minimum 10"</code>	form ff1								
		<table border="1"><tr><td>17</td><td>xxx</td></tr><tr><td>17</td><td></td></tr></table>	17	xxx	17					
17	xxx									
17										
form ff2	form ff2	form ff3								
		<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>								
form ff4	form ff8	form ff5								
<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>						<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
form ff4		form ff6								
<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>						<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
Line 21	Display:									
Line 22									
Line 23									
MSG: 2	End of field list	application								

Figure 5-74a SETDOM Test Case 1

Establish a domain clause for the repeating item field i1 on the form ff8. Define i1 to be a must enter, right justified, numeric field with a minimum value of 10 and a maximum value of 20.

Command Line	setdom ff8 il "right,numeric,maximum 20, minimum 10"	form ff1			
		17 xxx 17			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
	abc				
form ff4					
Line 21	Display:				
Line 22	.....			
Line 23	.....			
MSG: 2	End of field list	application			

Figure 5-74b Test Verification

A data value of "abc" is entered in the item field il on form ff8.

Command Line	setdom ff8 i1 "right,numeric,maximum 20, minimum 10"	form ff1			
		17 xxx 17			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
Line 21	Display:				
Line 22	.....			
Line 23	.....			
MSG: 3	Field must contain only integer numbers	application			

Figure 5-74c Domain Check Result

The "value is right justified but since "abc" is not numeric, an error message is issued.

Command Line	setdom ff8 i1 "right,numeric,maximum 20, minimum 10"	form ff1			
		17 xxx 17			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8	21			
form ff4					
Line 21 Display:					
Line 22					
Line 23					
MSG: 3	Field value is out of range				application

Figure 5-74d Invalid Value with Result

Entering an out of range numeric value results in an error message in the message line.

Command Line	<pre>setdom ff8 i1 "right,numeric,maximum 20, minimum 10"</pre>	form ff1														
		<table border="1"><tr><td>17</td><td>xx</td></tr><tr><td>17</td><td></td></tr></table>	17	xx	17											
17	xx															
17																
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7											
<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td></tr></table>		<table border="1"><tr><td></td><td></td></tr></table>		
form ff4	form ff8															
<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td>11</td></tr></table>	11												
11																
form ff4																
Line 21	Display:															
Line 22																
Line 23																
MSG:	0				application											

Figure 5-74e Valid Value with Result

The value "11" satisfies all of the domain constraints and is accepted as a valid value.

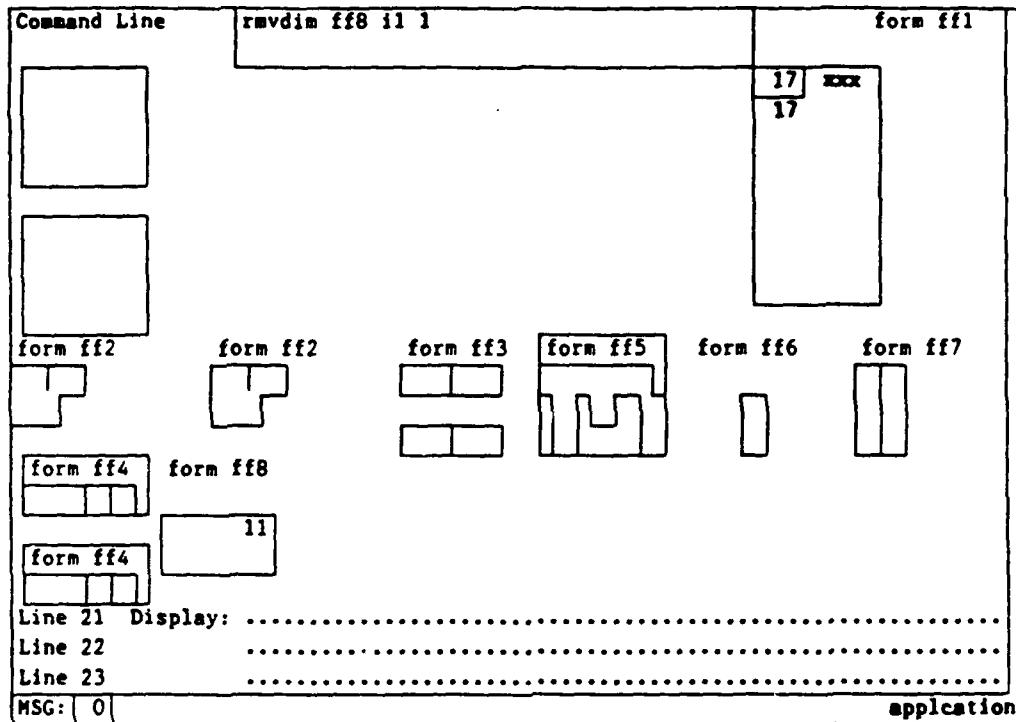


Figure 5-75a RMVDIM Test Case

Remove the array dimension from item field `ii` on form `ff8`.

Command Line	rmvdim ff8 ii 1	form ff1
		17 xx 17
	form ff2	
	form ff3	
	form ff4	
	form ff5	
	form ff6	
	form ff7	
	form ff8	11
Line 21 Display:	Line 22	.....
Line 23	.....
MSG: 0		application

Figure 5-75b Test Case Result

The form ff8 now only contains one occurrence of the item field ii.

Command Line	<code>setdom ff8 i1 "left,must enter,character ,upper"</code>	form ff1															
		<table border="1"><tr><td>17</td><td>xxx</td></tr><tr><td>17</td><td></td></tr></table>	17	xxx	17												
17	xxx																
17																	
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7												
<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>		
form ff4	form ff8																
<table border="1"><tr><td></td><td></td></tr></table>			11														
form ff4																	
Line 21	Display:																
Line 22																
Line 23																
MSG: 0					application												

Figure 5-76a SETDOM Test Case 2

Redefine the item field i1 on the form ff8 to be a required entry character field that is to be left justified and shifted to upper case.

Command Line	setdom ff8 11 "left,must enter,character ,upper"	form ff1			
		17 xxx 17			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
form ff4					
Line 21 Display:					
Line 22					
Line 23					
MSG: 1	Field must be entered	application			

Figure 5-76b Test Verification

Pressing the <ENTER> key without entering any data results in the message that data must be entered in the field.

Command Line	setdom ff8 i1 "left,must enter,character ,upper"	form ff1			
		17 | xxx 17			
form ff2	form ff2	form ff3	form ff5	form ff6	form ff7
form ff4	form ff8				
	abc				
form ff4					
Line 21	Display:				
Line 22	.....			
Line 23	.....			
MSG: 1	Field must be entered				application

Figure 5-76c Data Value "abc" Entered

The character string "abc" is entered in the field i1.

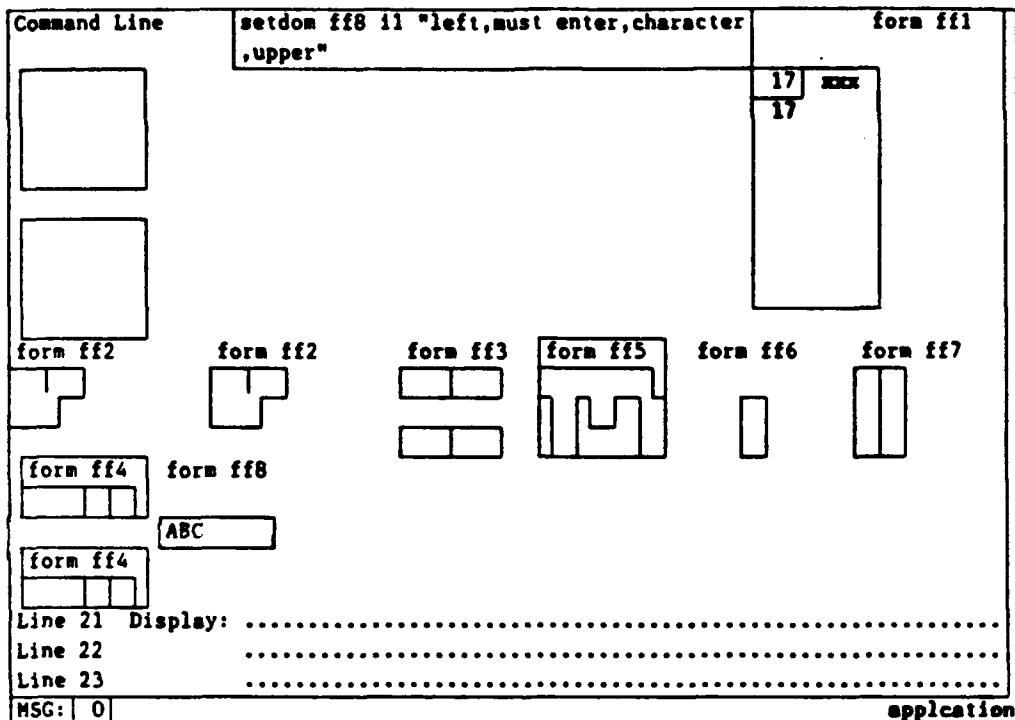


Figure 5-76d Domain Check Result

As per the domain clause, the string "abc" is shifted to upper case and left justified.

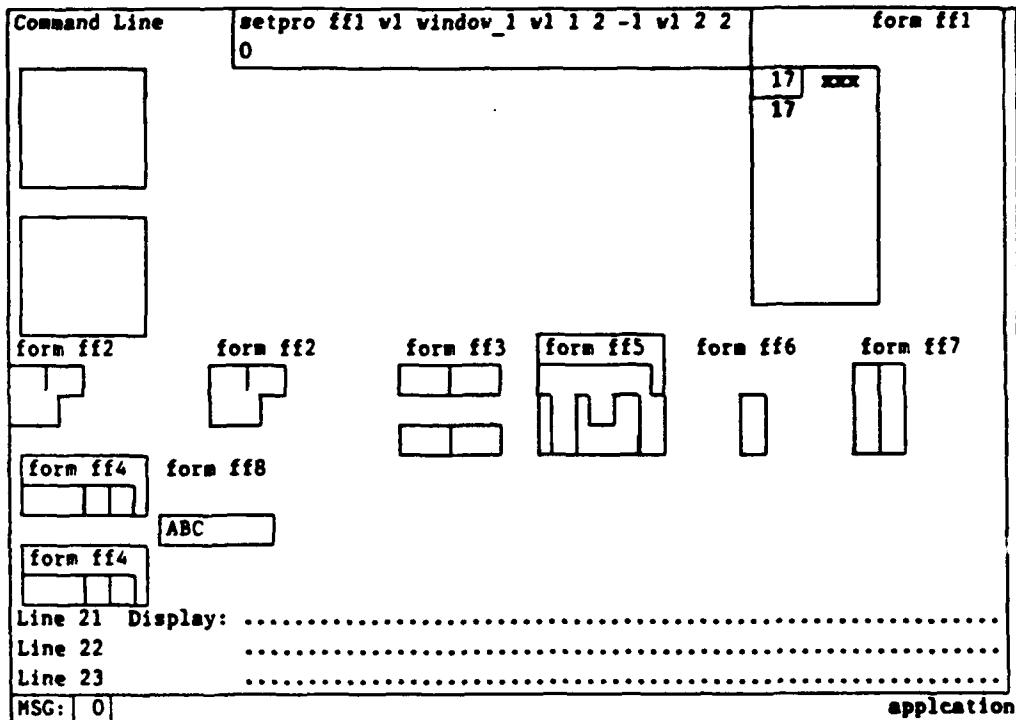


Figure 5-77a SETPRO Test Case 1

Attach a prompt to the window `w1` on the form `ff1`.

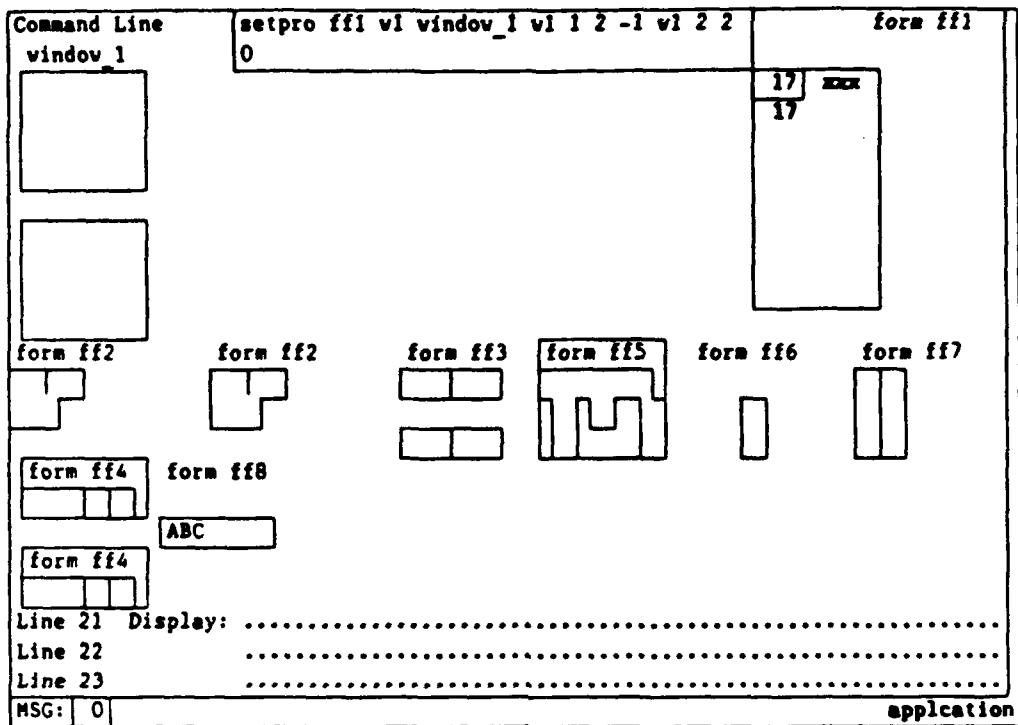


Figure 5-77b Case 1 Result

The prompt "window_1" appears centered one line above w1.

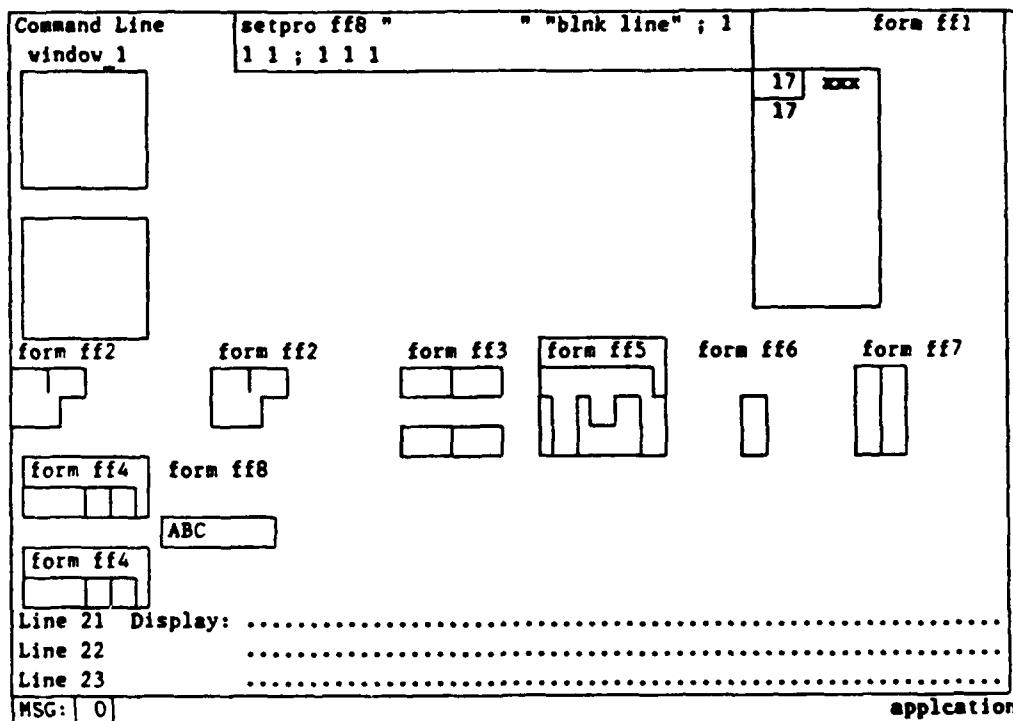


Figure 5-77c SETPRO Test Case 2

Define a background prompt for the form ff8 at the position offset 1 row and 1 column from the upper left corner of ff8.

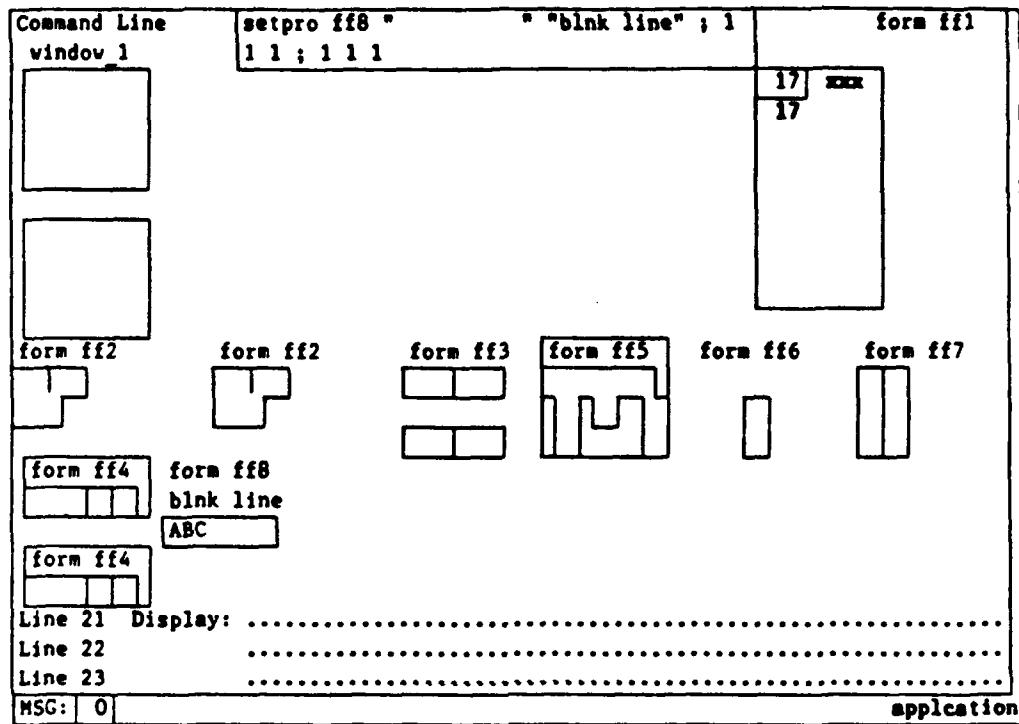


Figure 5-77d Case 2 Result

The prompt, "blnk line", appears below the prompt, "form ff8".

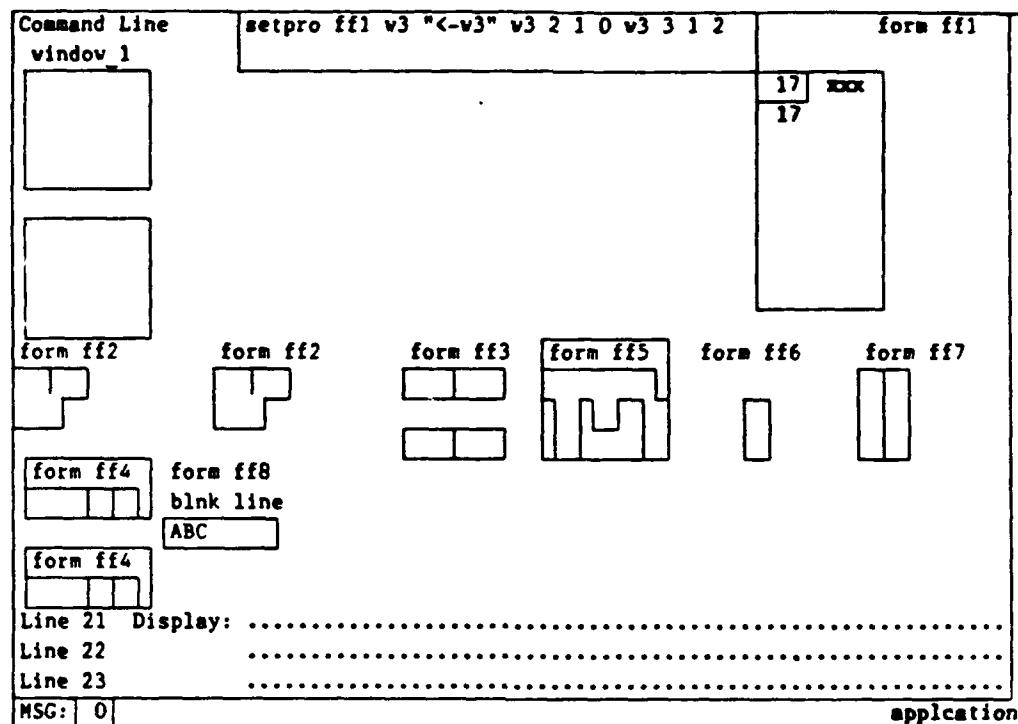


Figure 5-77e SETPRO Test Case 3

Attach a prompt to the window field w3 on ff1 that is positioned relative to w3, centered vertically and offset 2 horizontally.

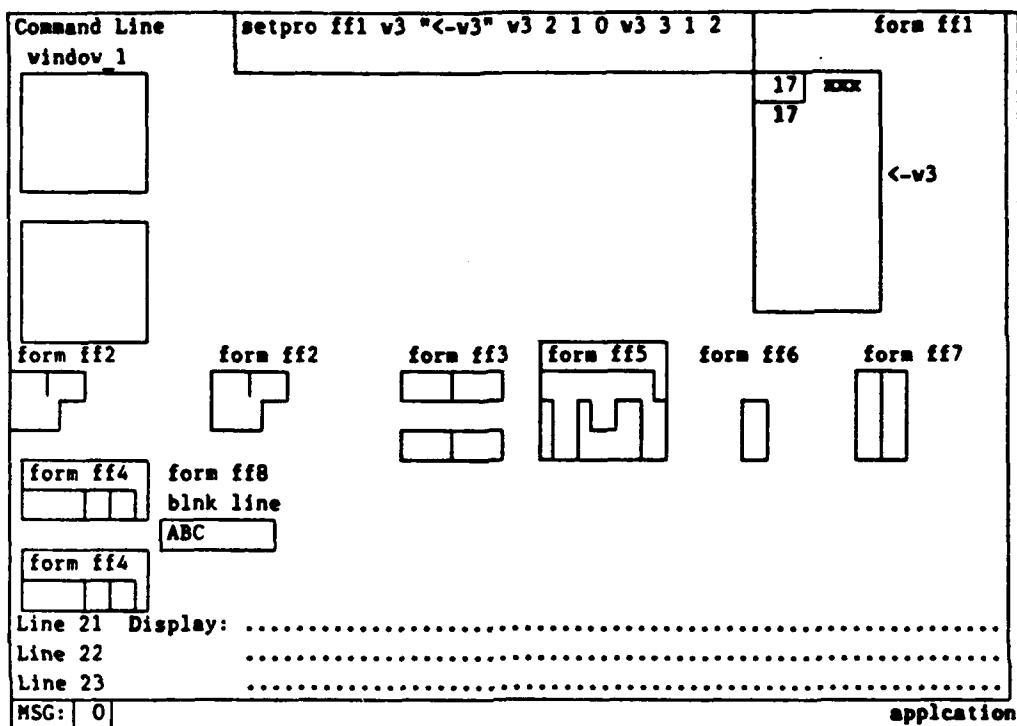


Figure 5-77f Case 3 Result

The prompt, "<- w3", appears on the form ff1.

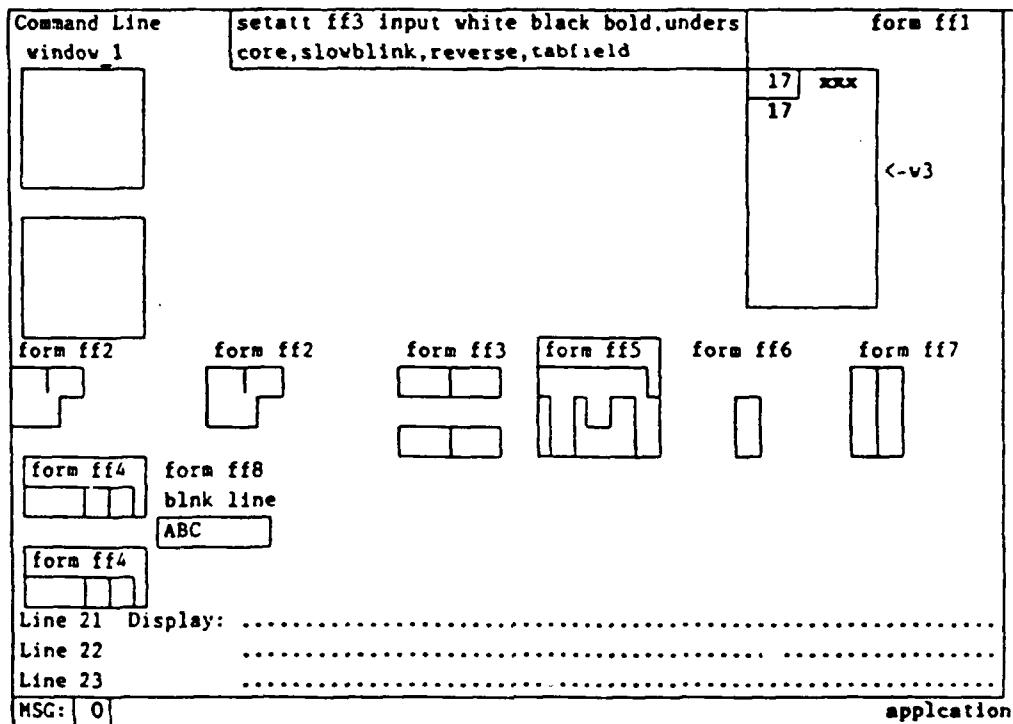


Figure 5-78a SETATT Test Case

Define an attribute clause for "input" on the form ff3.

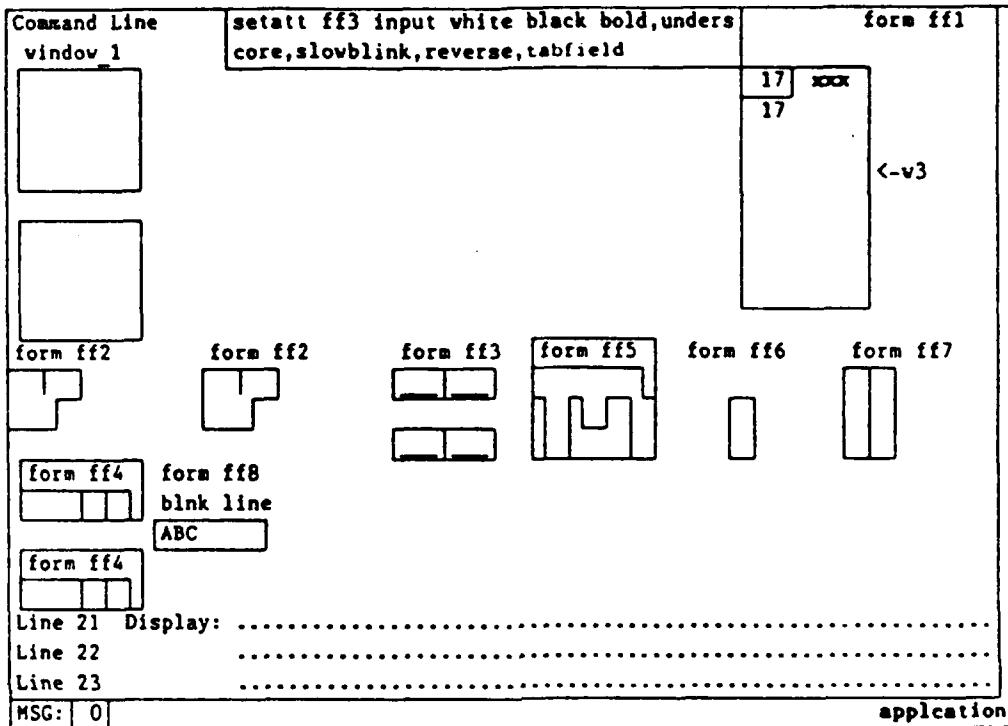


Figure 5-78b Test Case Result

The item `ii` on `ff3` has the display attribute "input" and now shows the properties defined for this attribute: a foreground color of white and background color of black. It is also bold, underscore, slowblink, reverse, and tabfield.

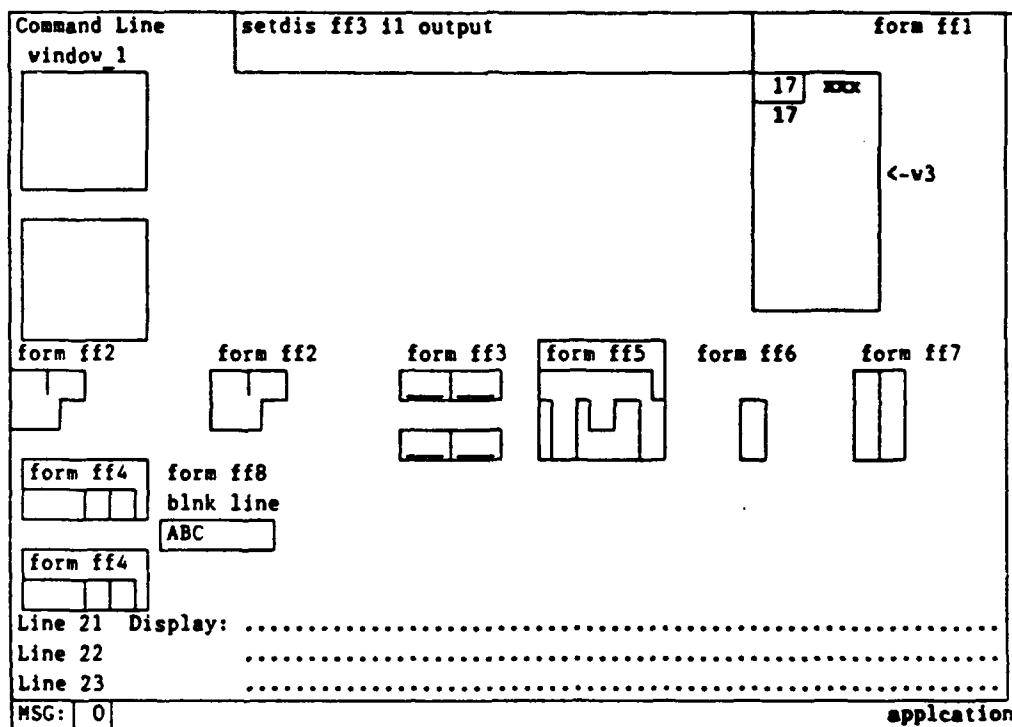


Figure 5-79a SETDIS Test Case 1

Define the display attribute of item i1 on form ff3 to be output.

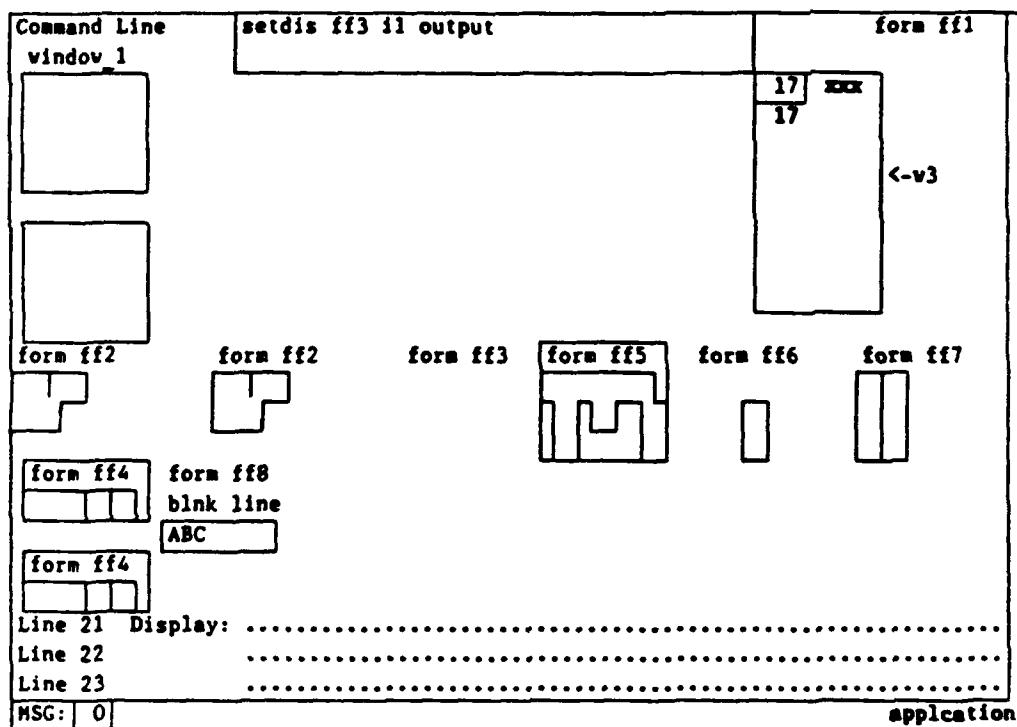


Figure 5-79b Case 1 Result

Since the field i1 contains no data, it does not appear on the form ff3.

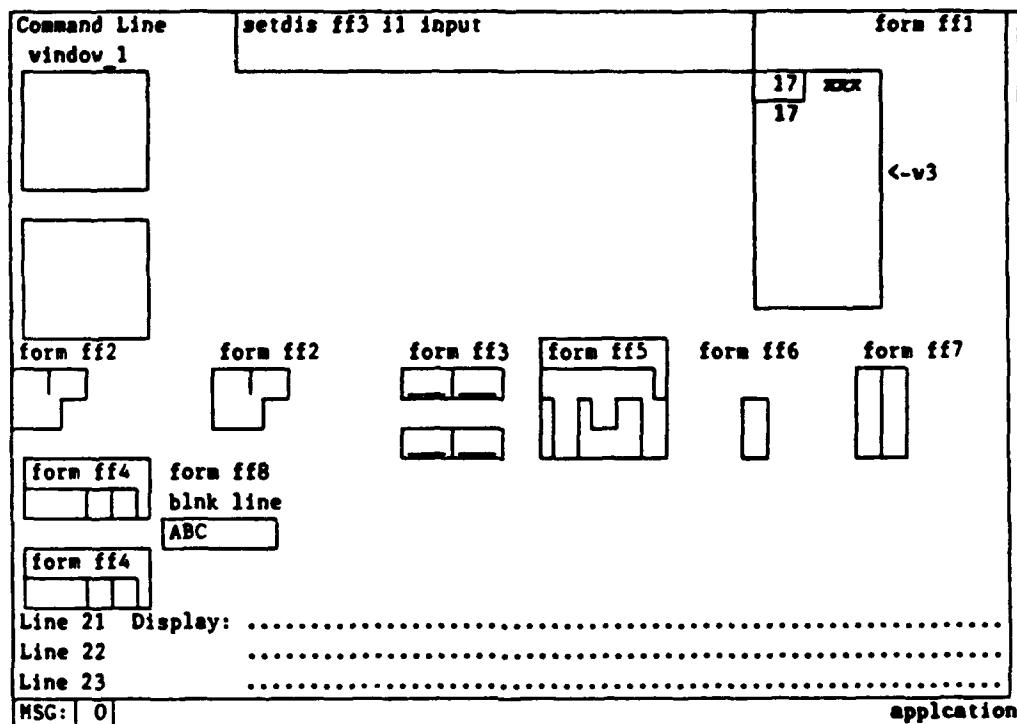


Figure 5-79c Return Attribute to Input

Use SETDIS again to reset il's display attribute to input.

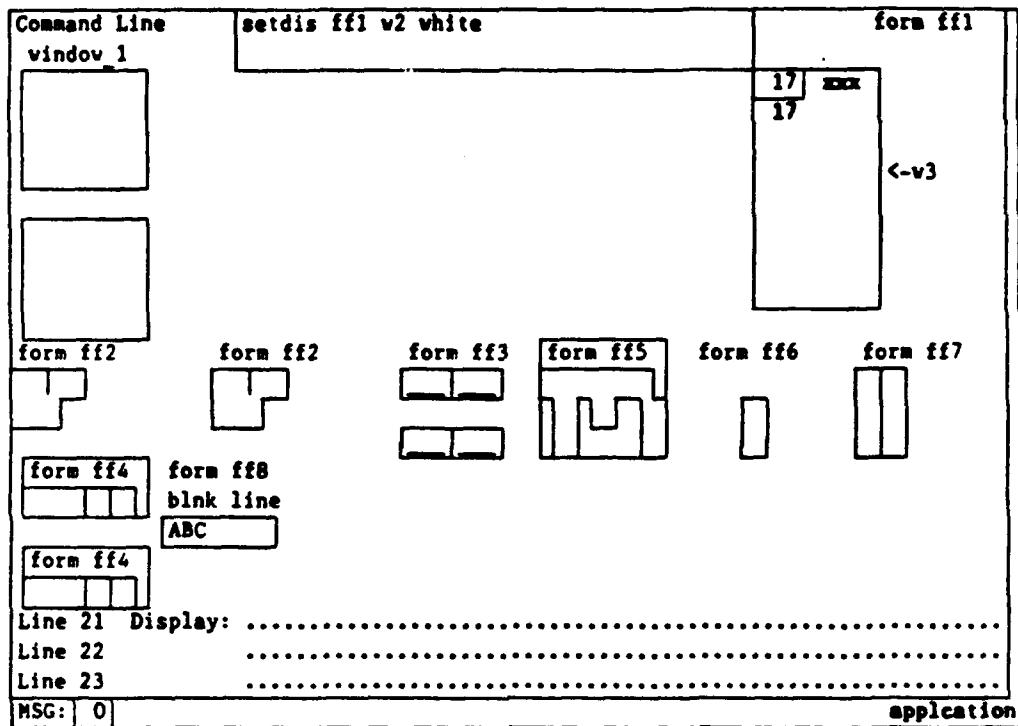


Figure 5-79d SETDIS Test Case 2

Set the display color of the window w2 on form ff1 to be white instead of its original color, black.

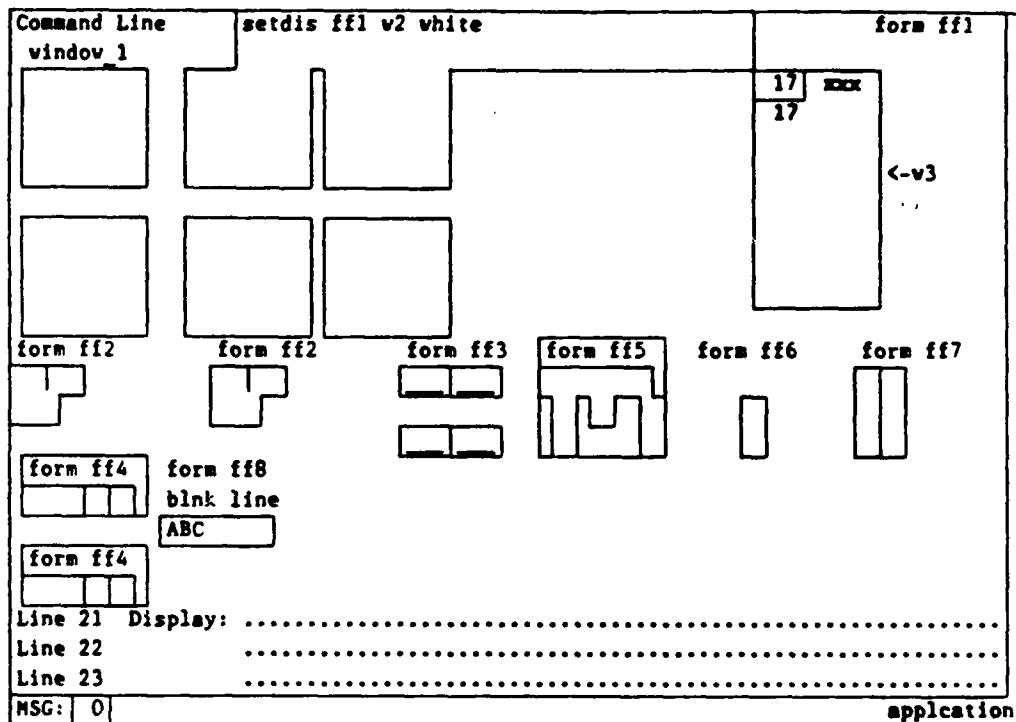


Figure 5-79e Case 2 Result

This makes all four occurrences of the window visible against the black background of the containing form, ff1.

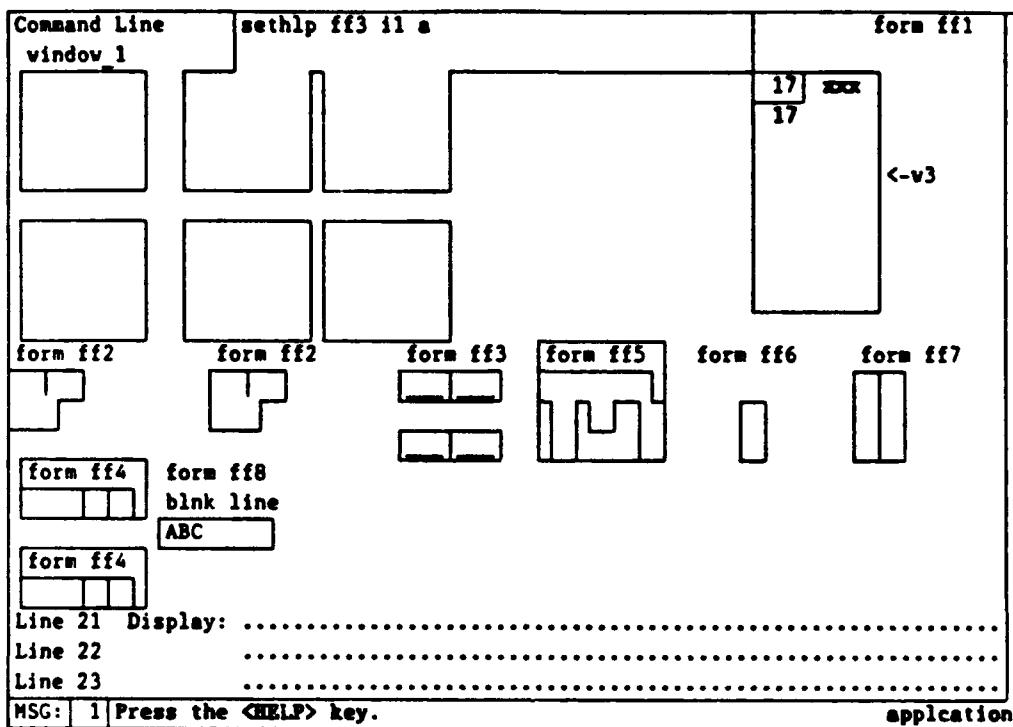


Figure 5-80a SETHLP Test Case 1

Define the help for the item field i1 on form ff3 to be application help.

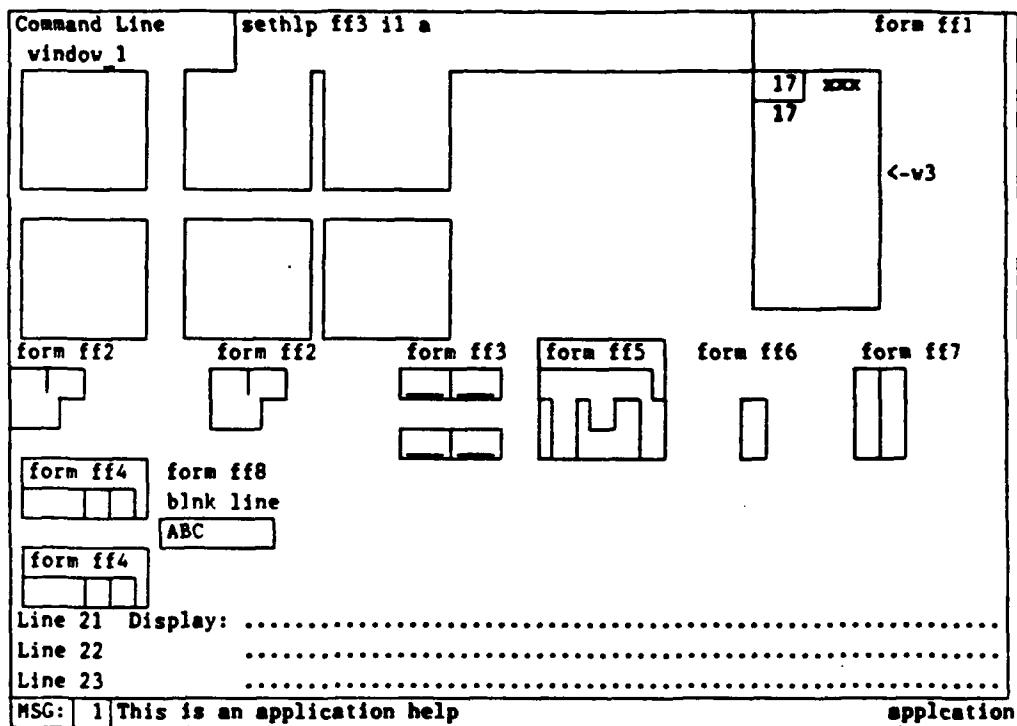


Figure 5-80b Case 1 Result

Positioning the cursor in item field il and pressing the <HELP> key causes the message to appear in the message line.

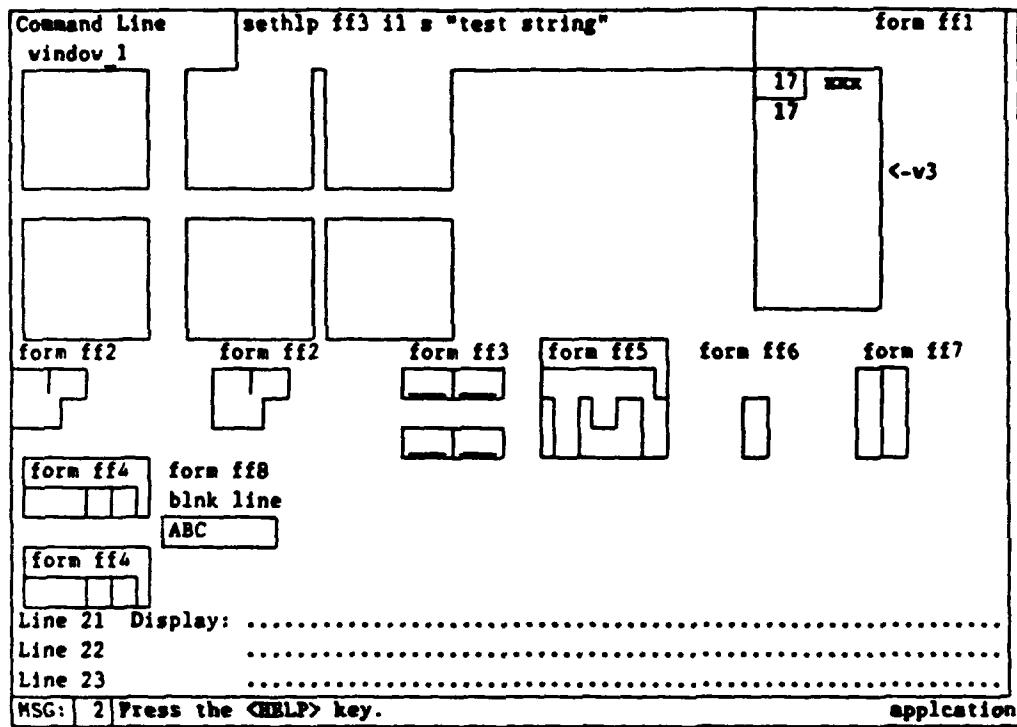


Figure 5-80c SETHLP Test Case 2

Help for the item field i1 on form ff3 is defined to be a string that will be displayed in the message line

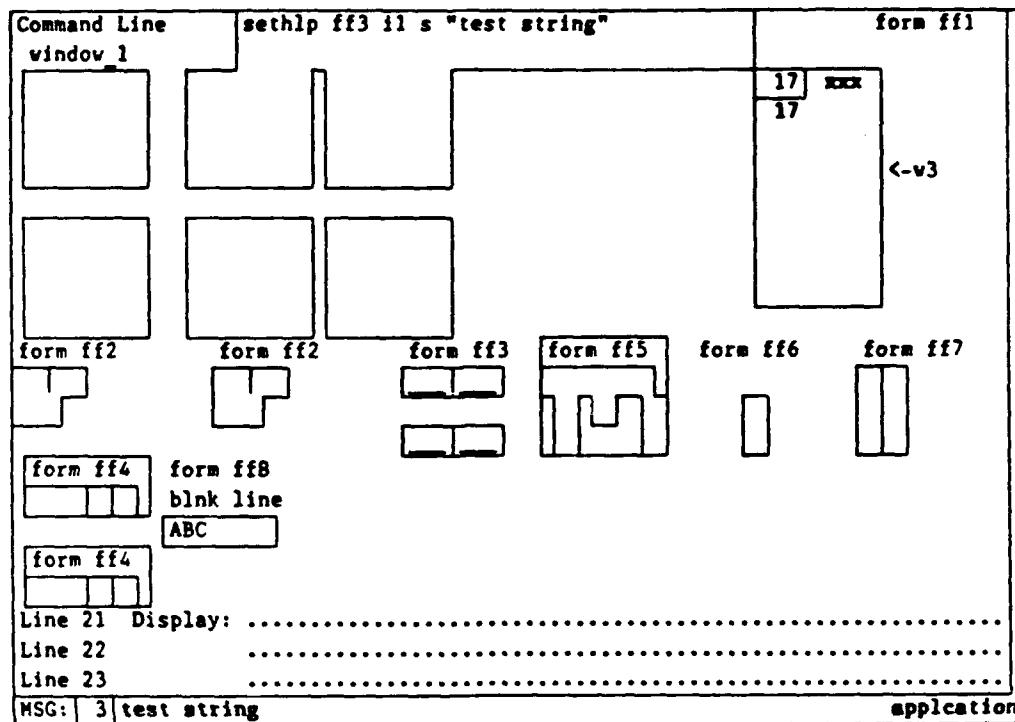


Figure 5-80d Case 2 Result

Positioning the cursor in item field il and pressing the <HELP> key causes the message to appear in the message line. Press the <ENTER> key to continue.

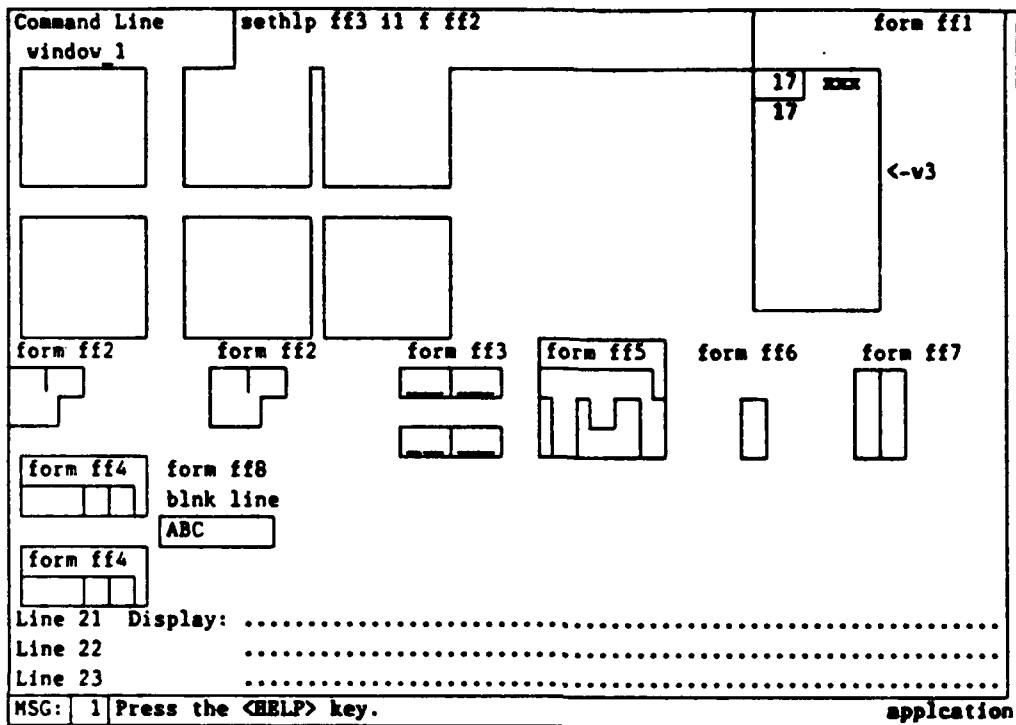


Figure 5-80e SETHLP Test Case 3

Help for the item field i1 on form ff3 is defined to be the form ff2.

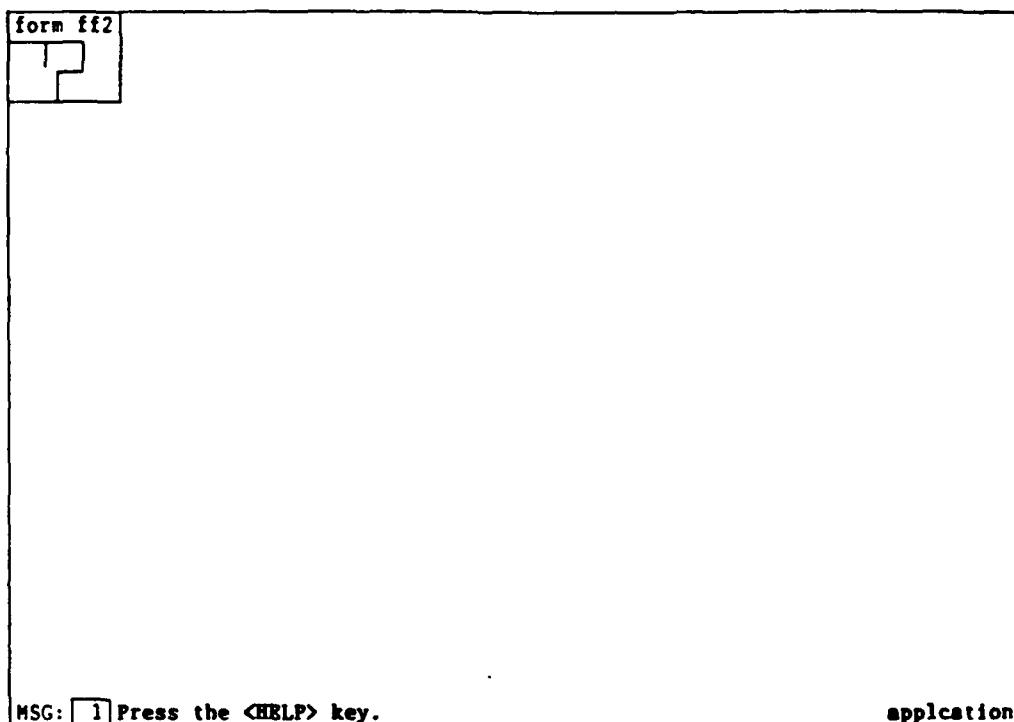


Figure 5-80f Case 3 Result

When the cursor is in the item field i1 on the form ff3 and the <HELP> key is pressed, the form ff1 is replaced by the form ff2 on the terminal screen. Press the <QUIT> key to return to ARTEST and then press the <ENTER> key to continue.

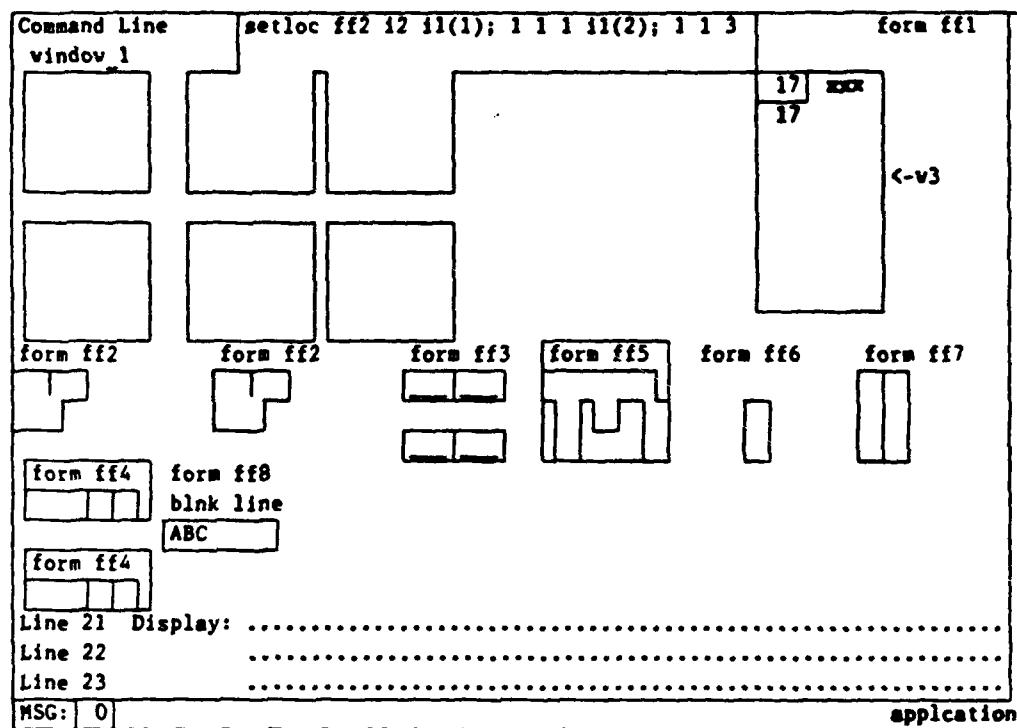


Figure 5-81a SETLOC Test Case 1

Change the location of the item field i2 on the form ff2.
Define it to be positioned relatively to the first and second
occurrences of i1.

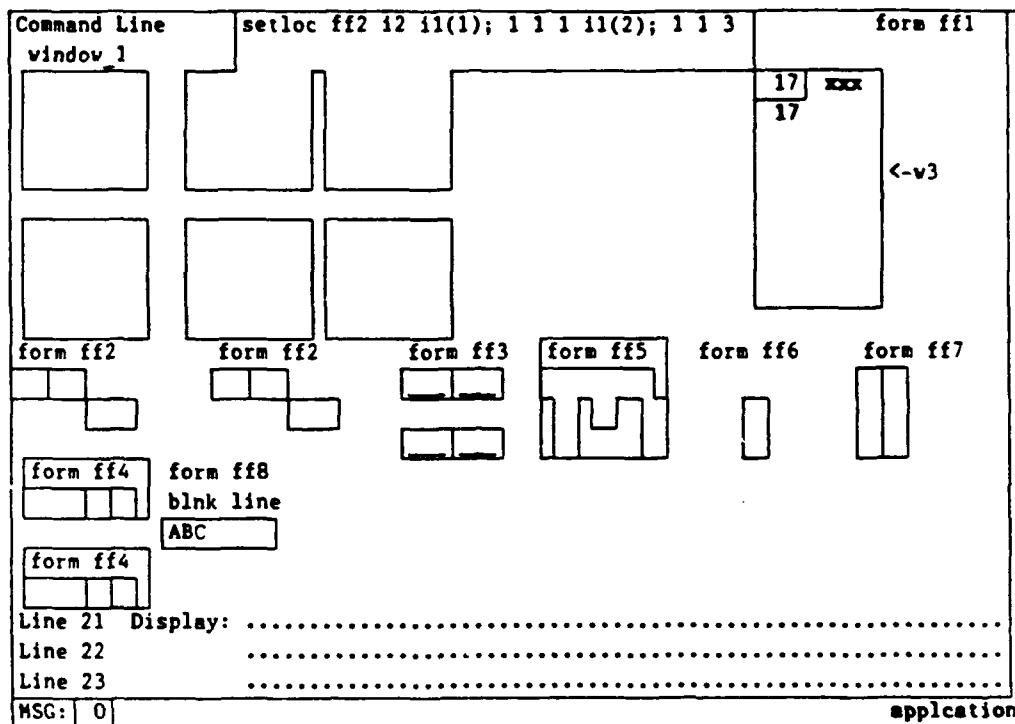


Figure 5-81b Case 1 Result

The item field i2 appears 1 row below i1(1) and 3 columns to the right of the left edge of i1(2).

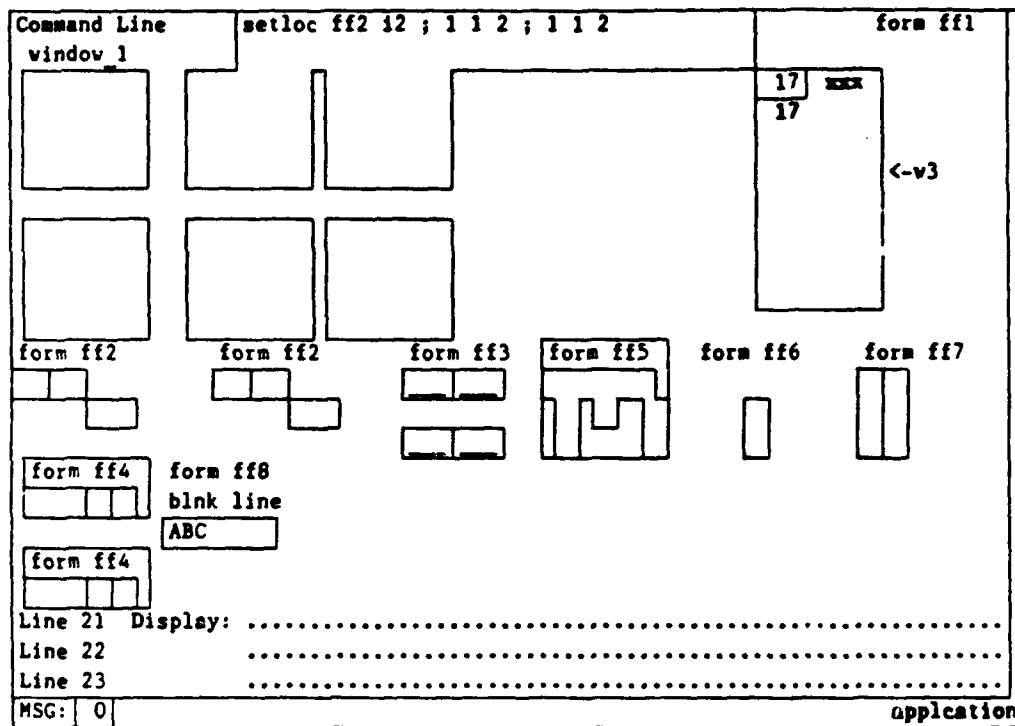


Figure 5-81c SETLOC Test Case 2

Redefine the position of i2 on ff2 in absolute terms.

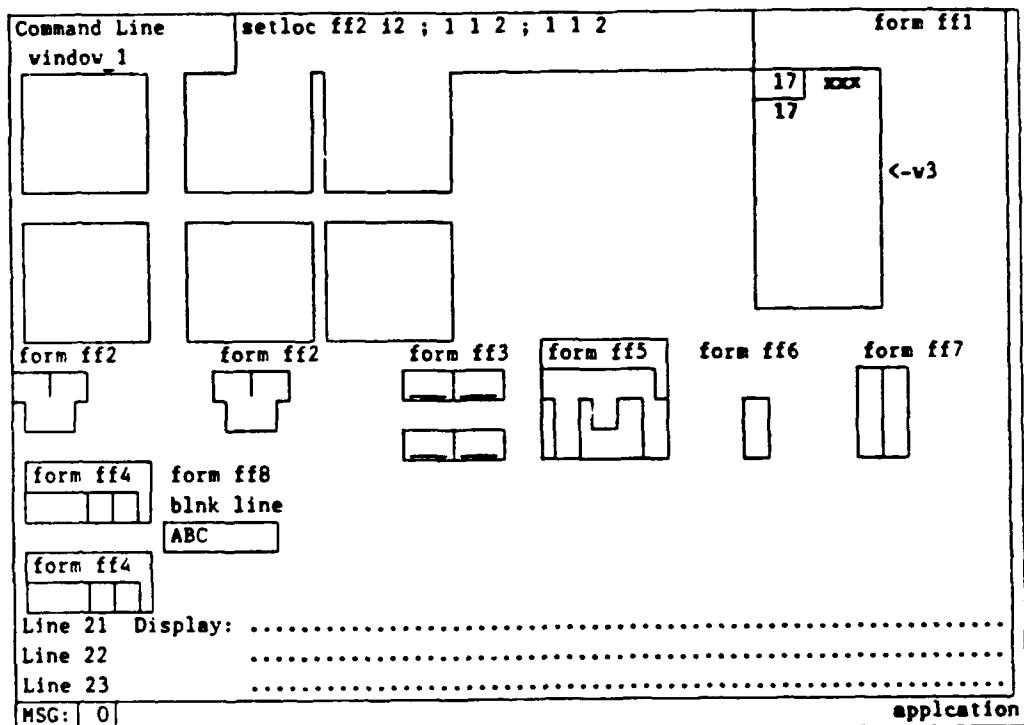


Figure 5-81d Case 2 Result

The item field i2 is placed a row 3 and column 3 or form ff2.

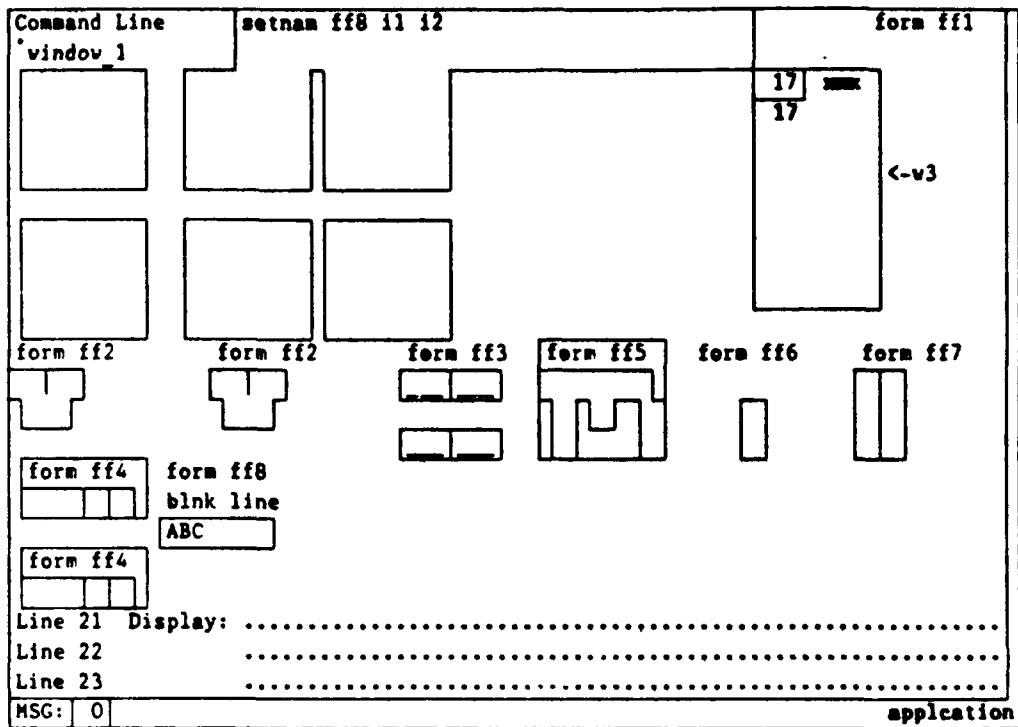


Figure 5-82a SETNAM Test Case 1

Change the name of the item field i1 on ff8 to be i2.

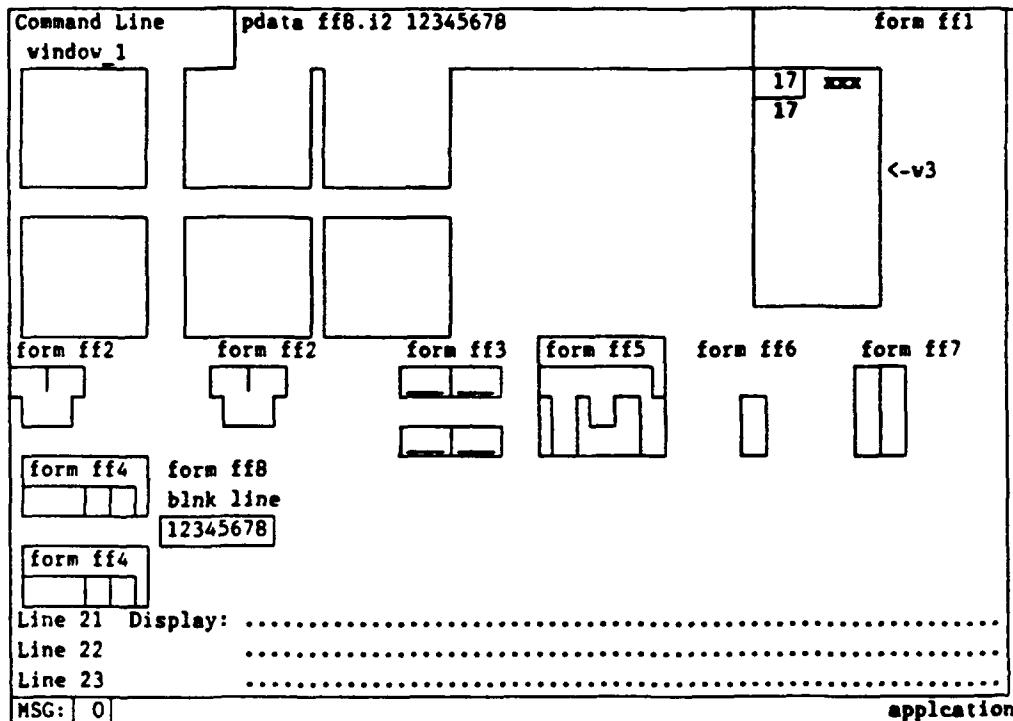


Figure 5-82b Test Verification

Use PDATA to insert data into the item field now named i2. This verifies that the name change was successful.

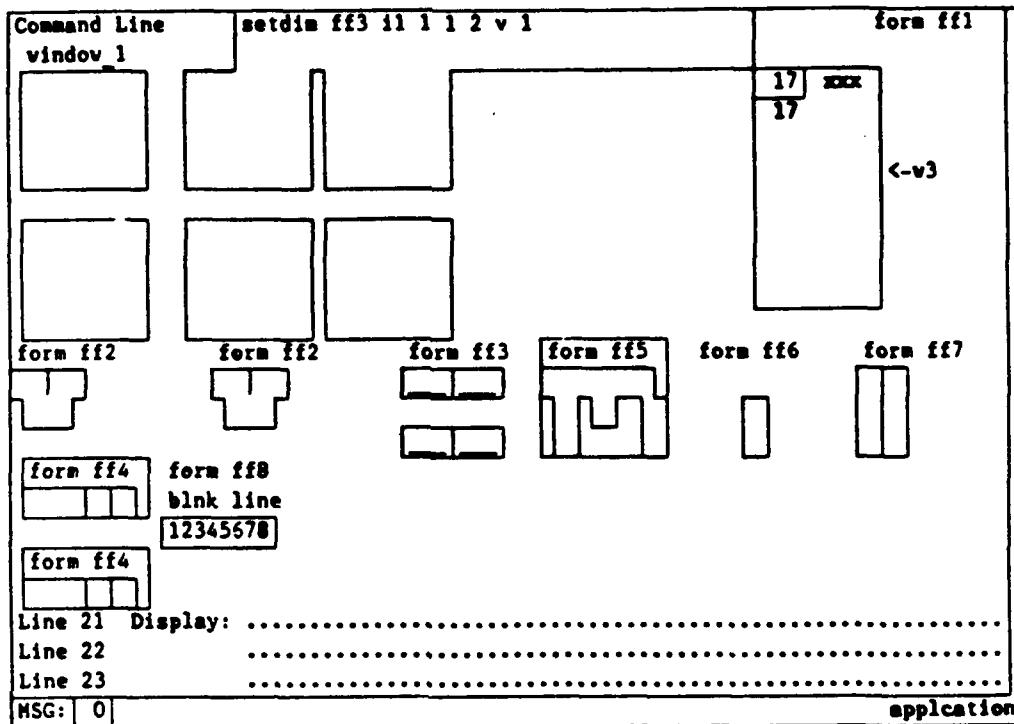


Figure 5-83a SETDIM Test Case

Form ff3 currently contains the item field i1 that repeats twice horizontally and then this array is repeated twice vertically. The vertical repetition is changed to be 1 displayed instance and 2 actual instances.

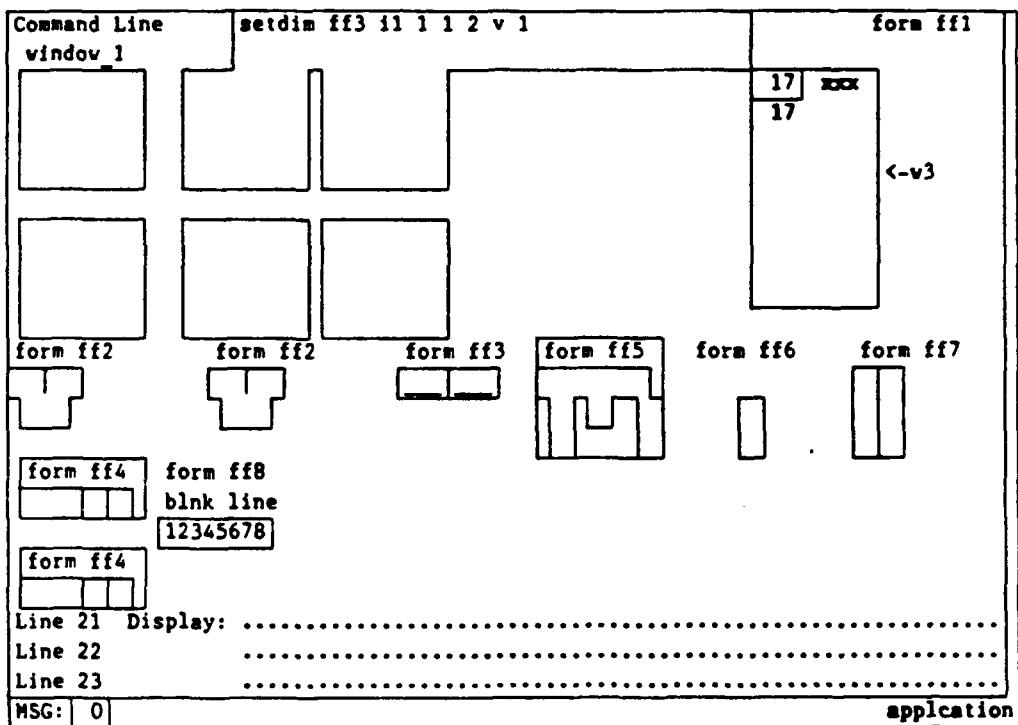


Figure 5-83b Test Result

The second vertical repetition of i1 array is no longer displayed.

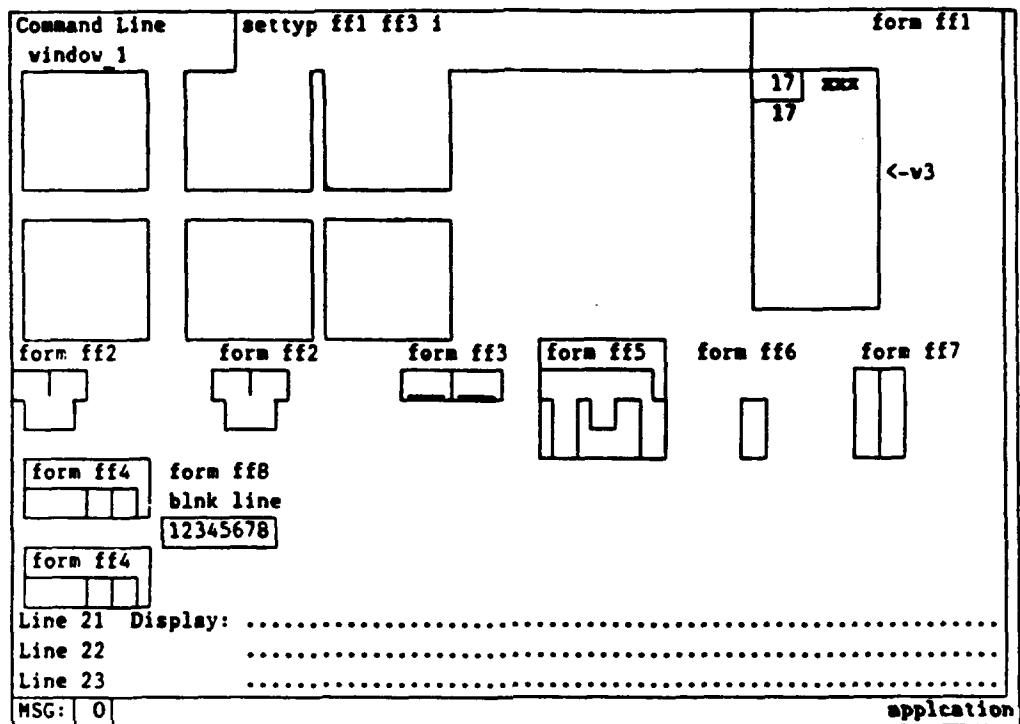


Figure 5-84a SETTYP Test Case 1

Change the form field ff3 on the form ff1 to an item field.

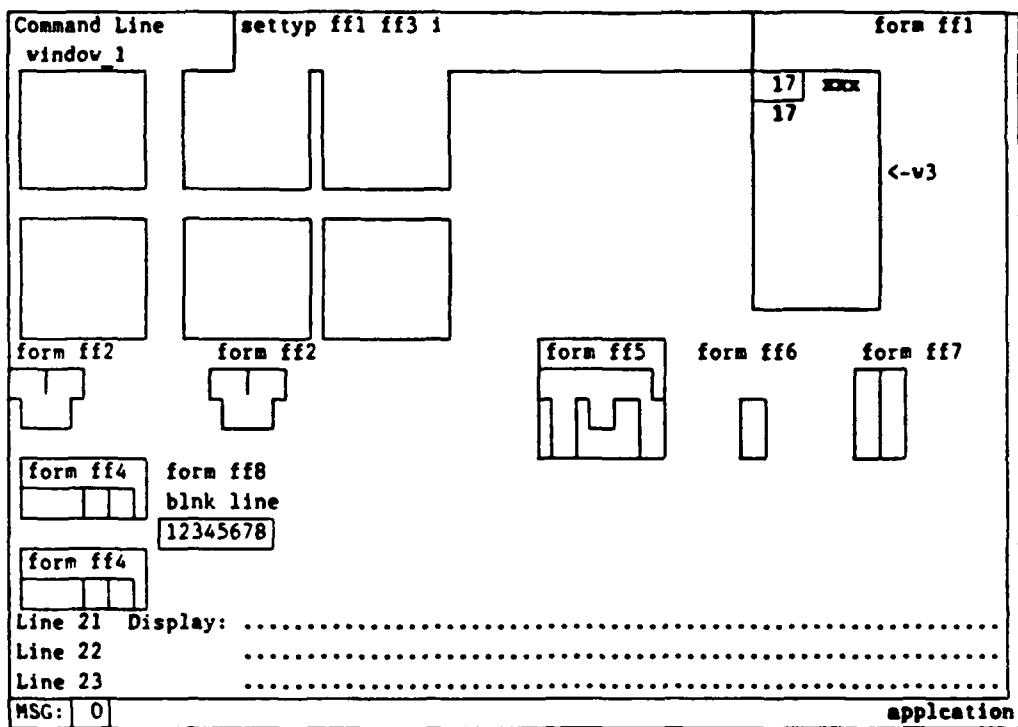


Figure 5-84b Case 1 Result

Form ff3 no longer appears on the screen.

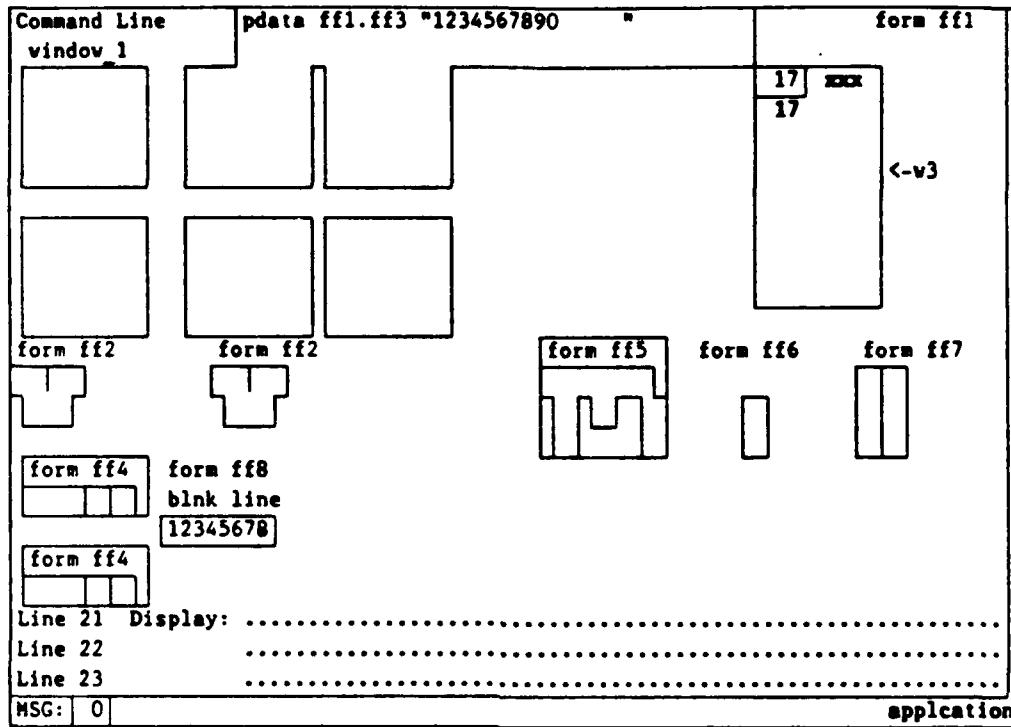


Figure 5-84c Test Verification

To verify that the field is now an input item, PDATA is used to enter the value "1234567890"

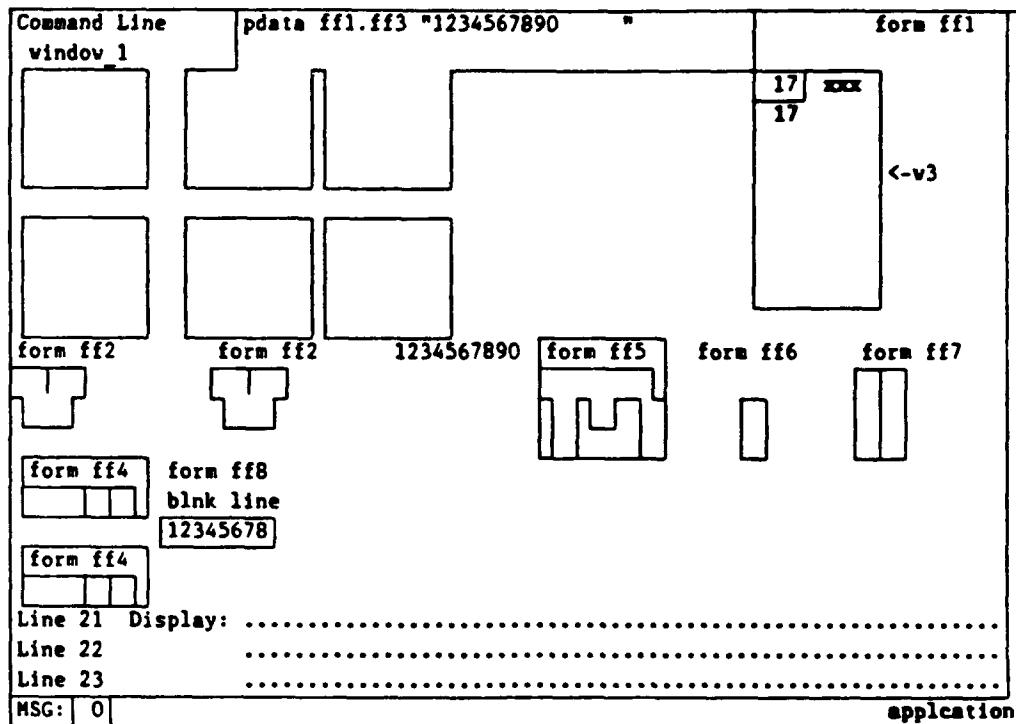


Figure 5-85a SETSIZ Test Case 1

Change the size of the field ff3 on the form ff1 to be 4 by 4.

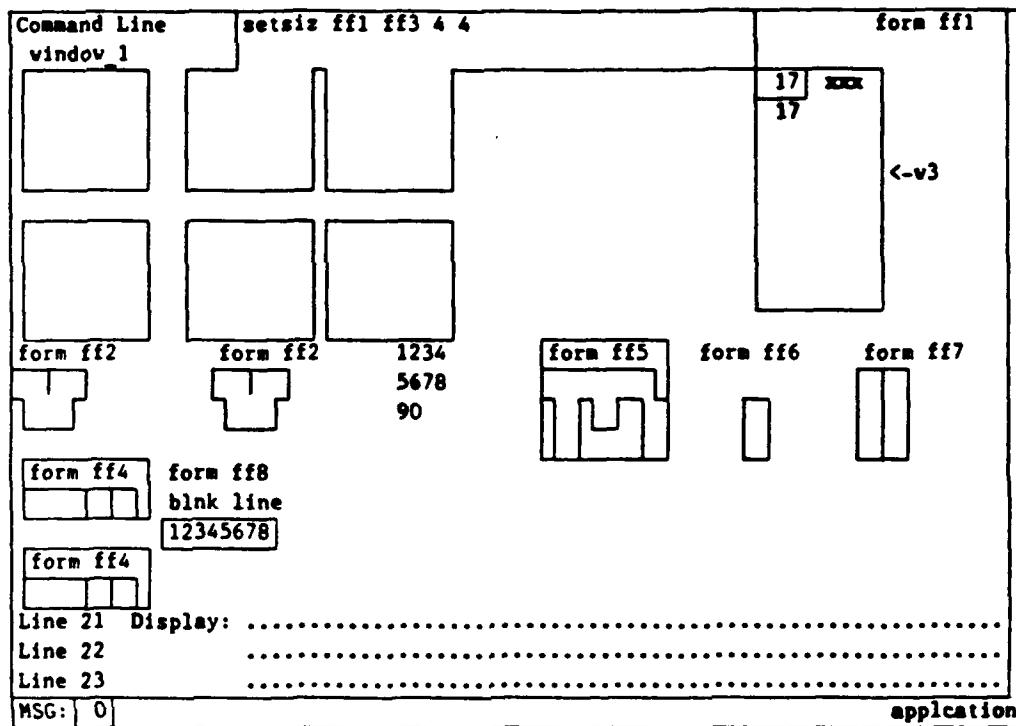


Figure 5-85b Case 1 Result

The reorganization of the data in ff3 shows that the size was changed.

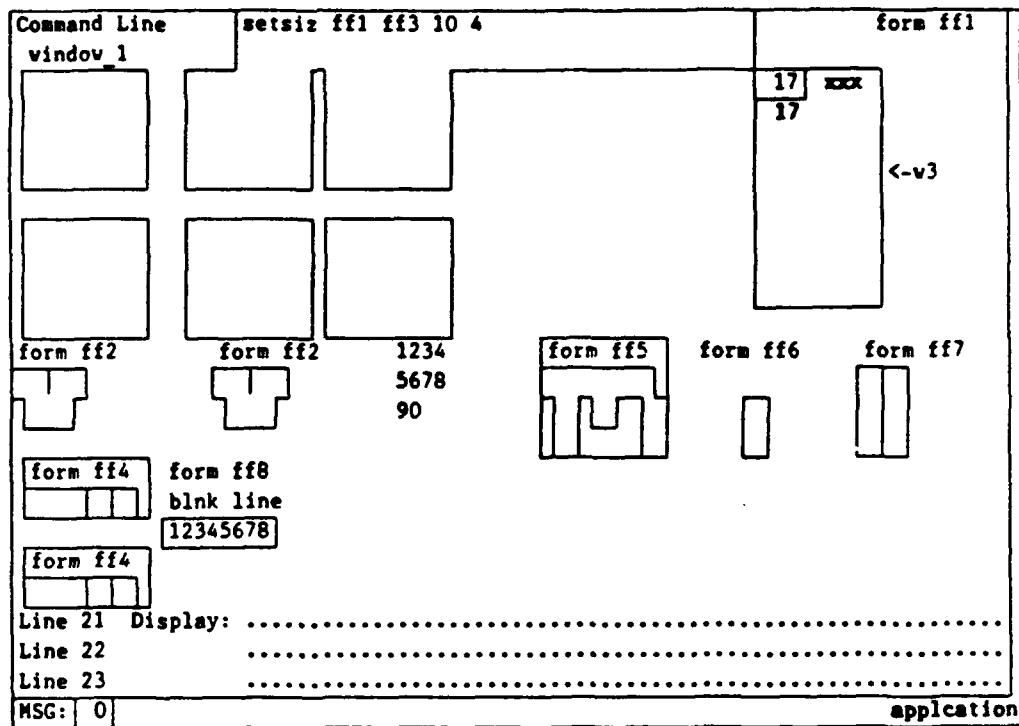


Figure 5-85c SETSIZ Test Case 2

Change the size of the item field ff3 on form ff1 to 10 by 4.

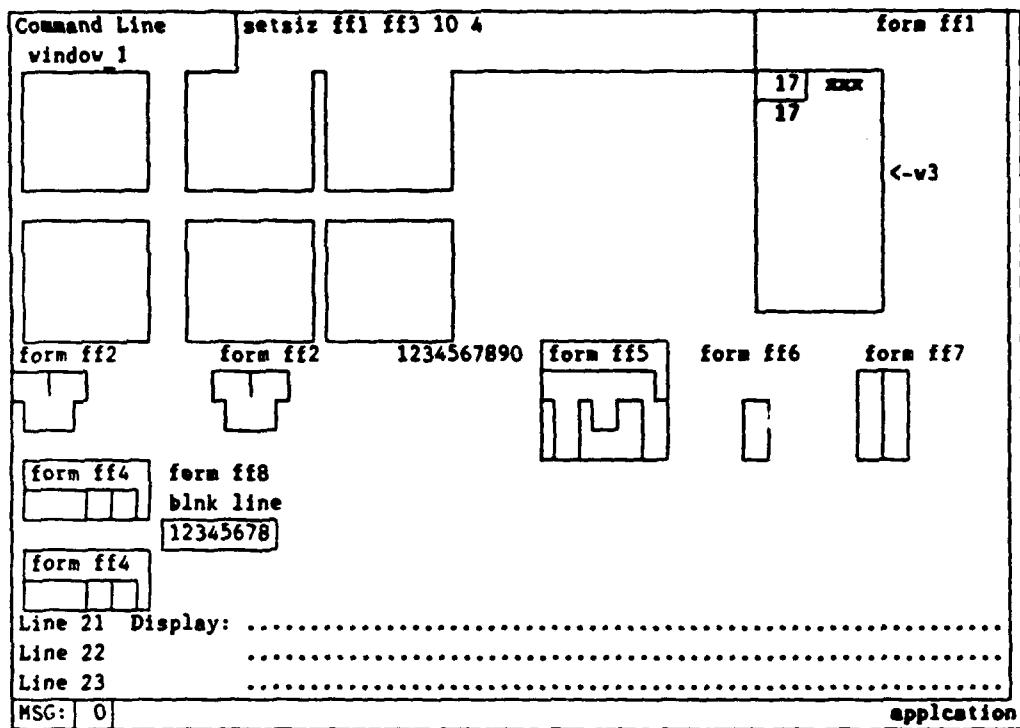


Figure 5-85d Case 2 Result

The data contained in ff3 are reorganized to reflect the size change.

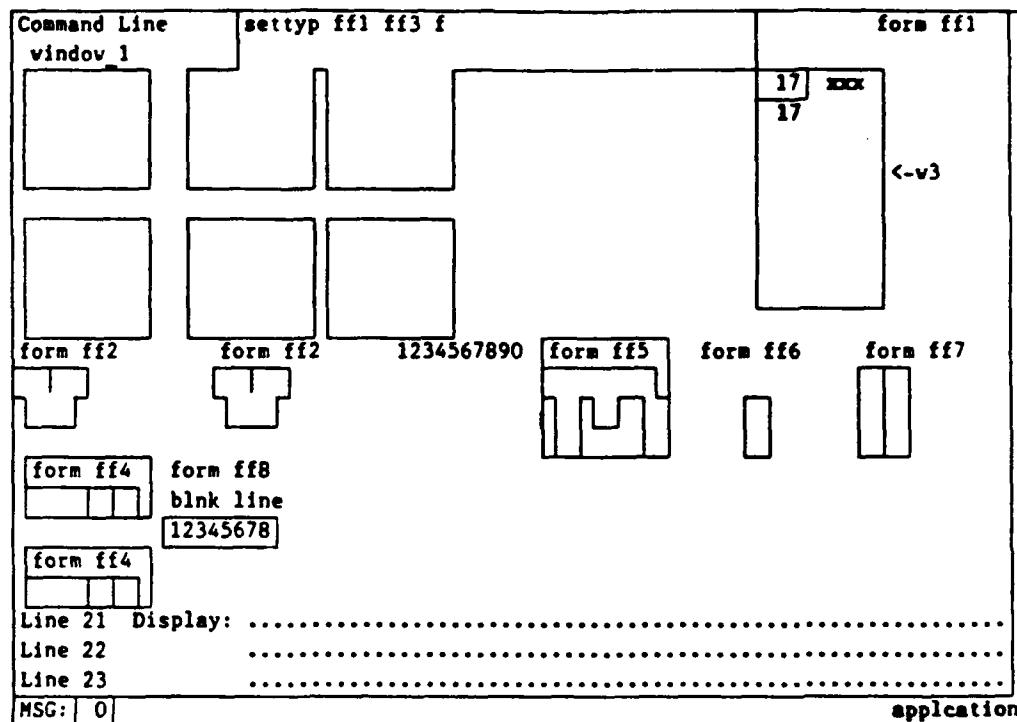


Figure 5-86a SETTYP Test Case 2

Change the item field ff3 back to a form.

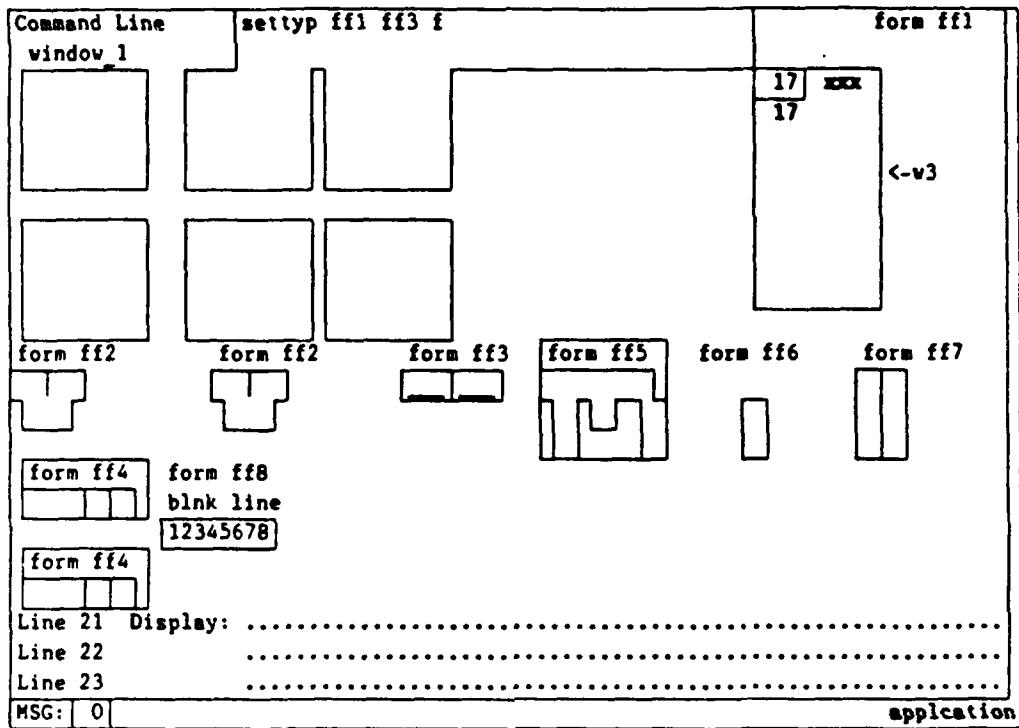


Figure 5-86b Case 2 Result

The original form ff3 reappears.

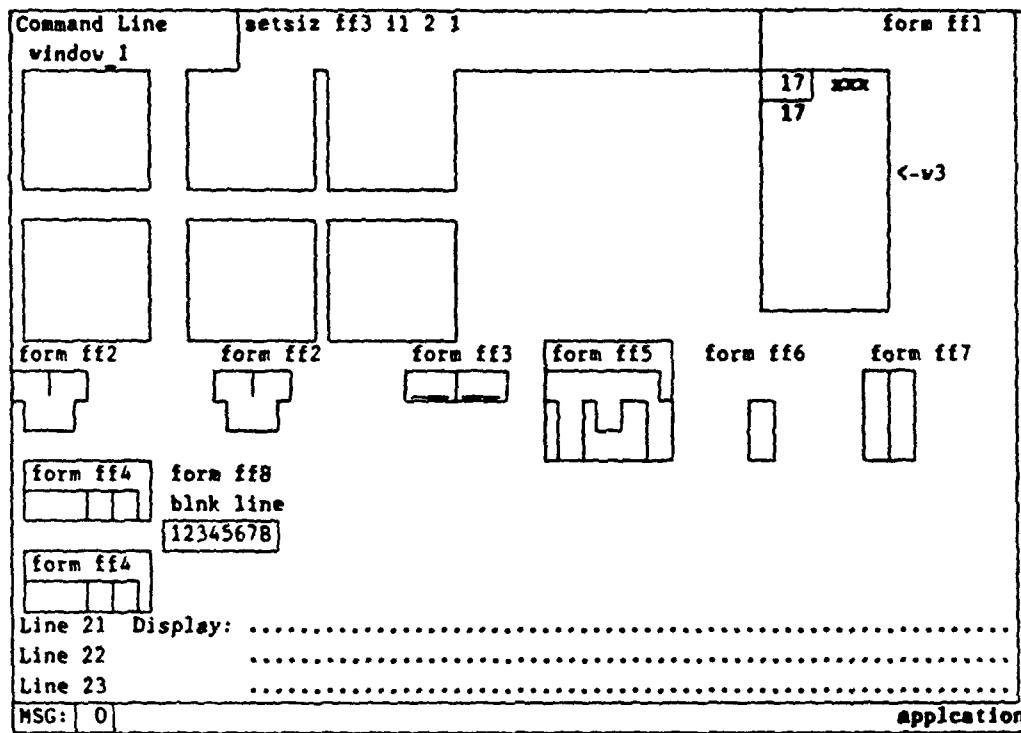


Figure 5-87a SETSIZ Test Case 3

Change the size of the item field i1 on form ff3 to be 2 by 1 instead of 3 by 1.

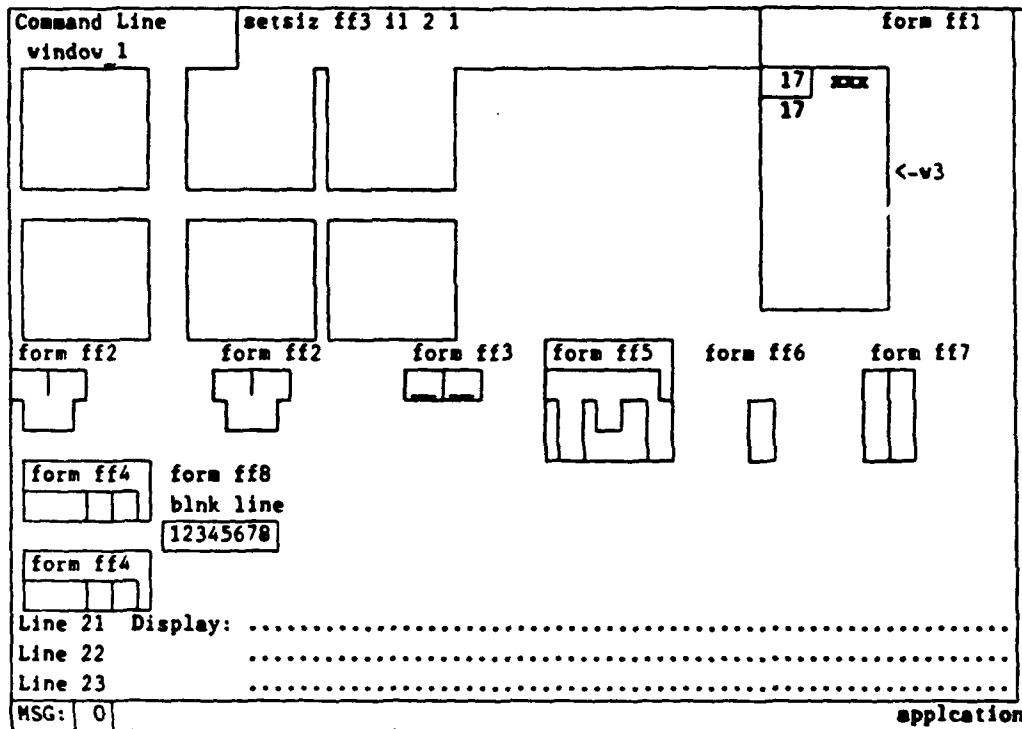


Figure 5-87b Case 3 Result

Since `i1` is an item array, the size is changed on all instances of `i1`.

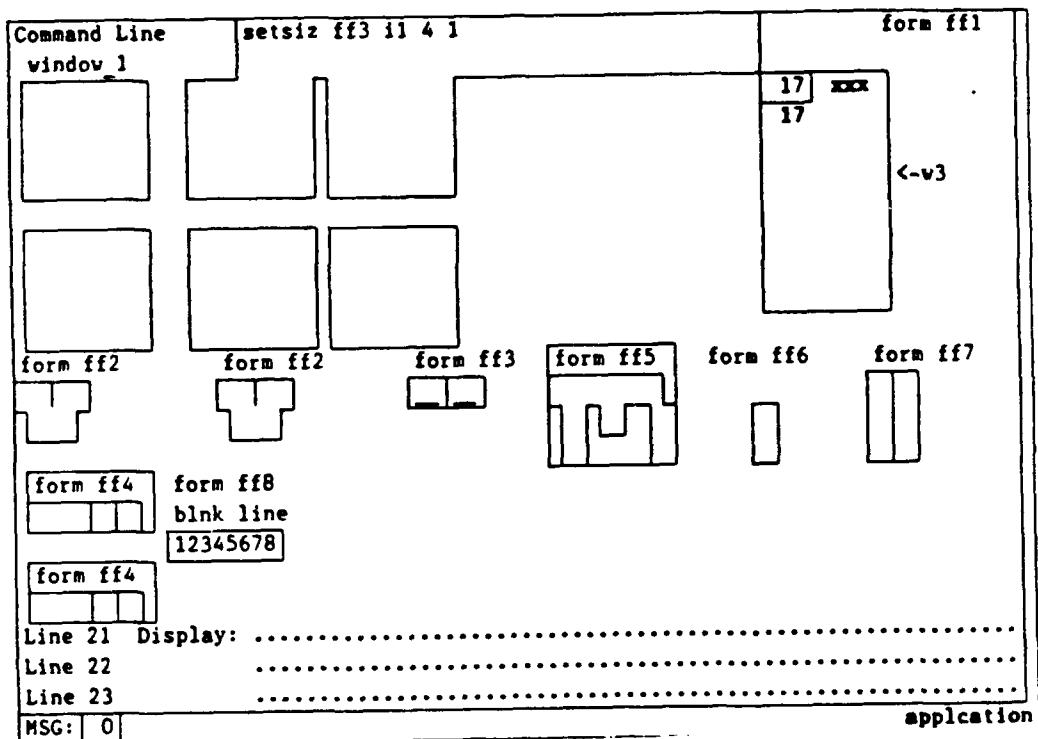


Figure 5-87c SETSIZ Test Case 4

Increase the size of item i1 on form ff3 to be larger than the original size of 3 by 1.

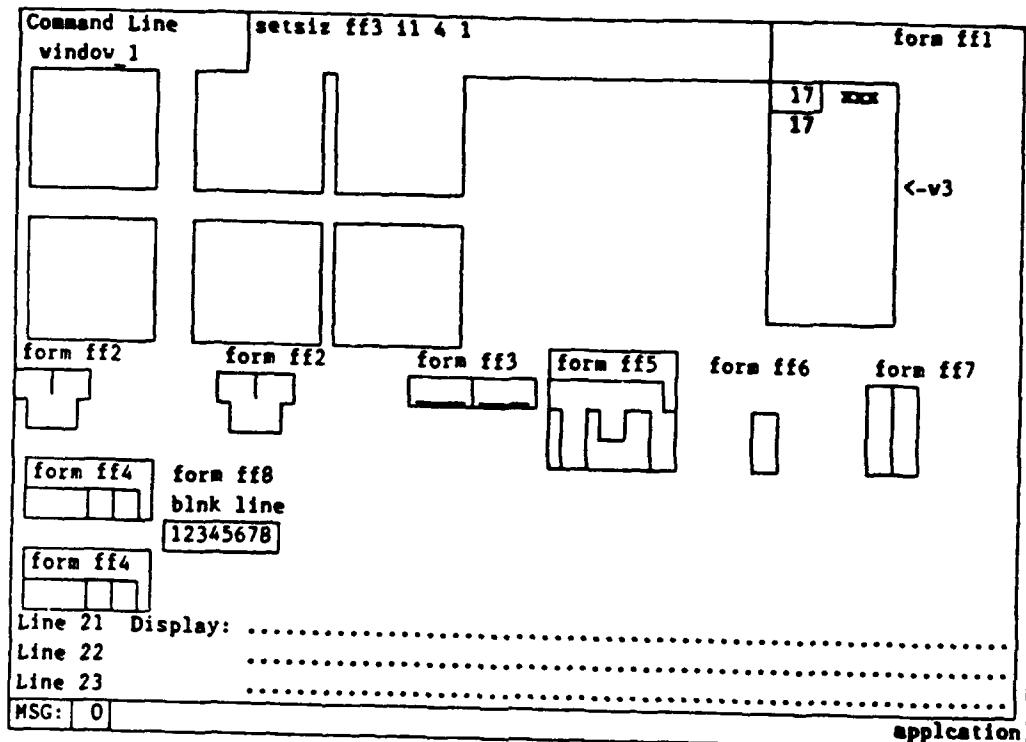


Figure 5-87d Case 4 Result

Again, the size is increased to 4 by 1 on all instances of il in the form ff3.

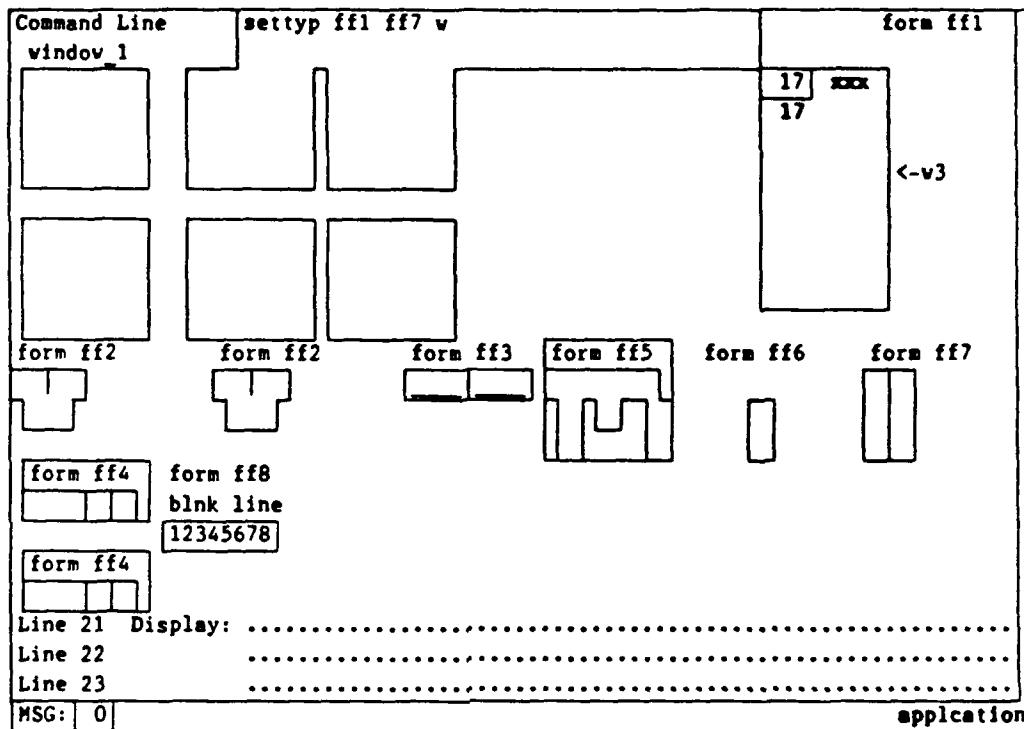


Figure 5-88a SETTYP Test Case 3

Change the form field ff7 on the form ff1 a window field.

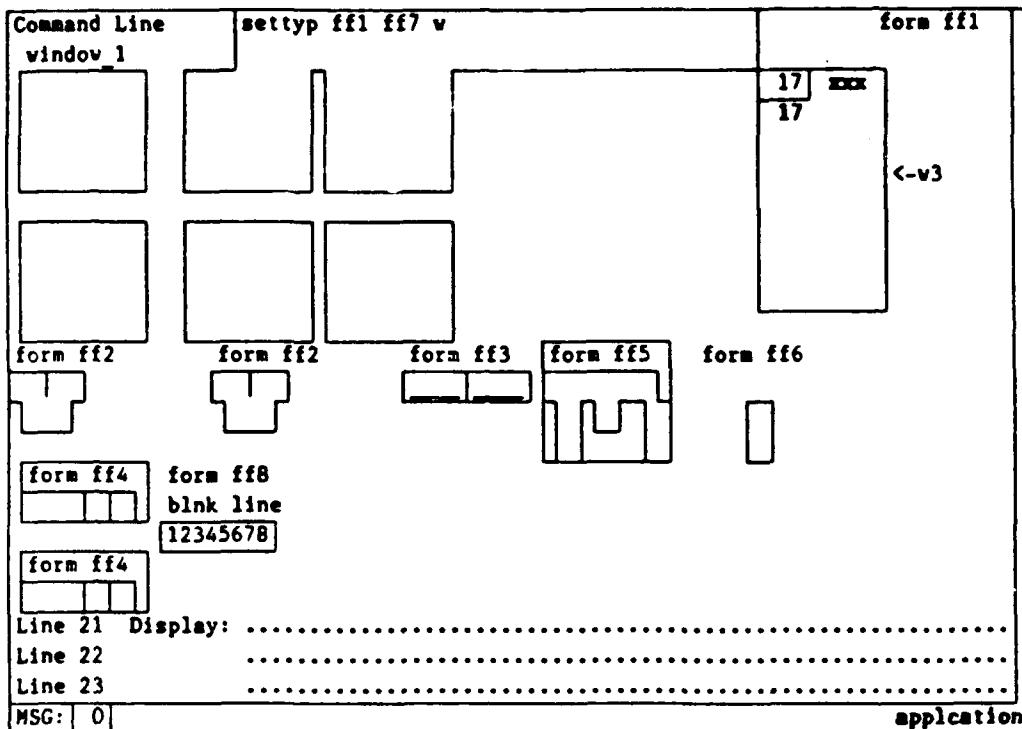


Figure 5-88b Case 3 Result

By default the background color of the window is black, the same as its containing form and so it does not appear.

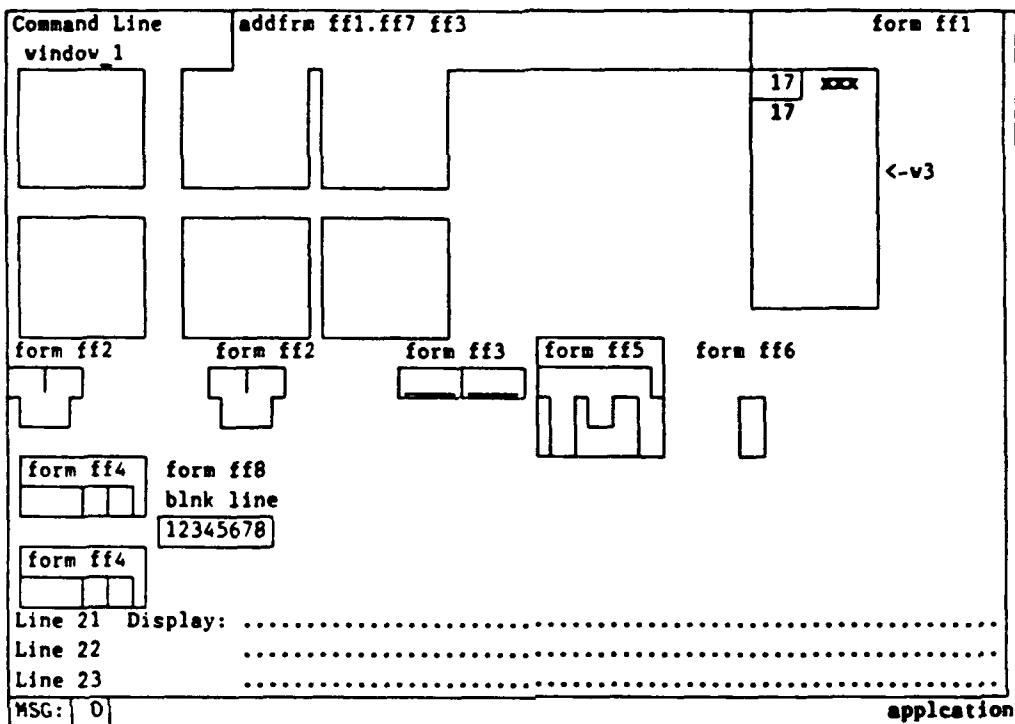


Figure 5-88c Test Verification

To verify that field ff7 is now a window field, use ADDFRM to add the form ff3 to it.

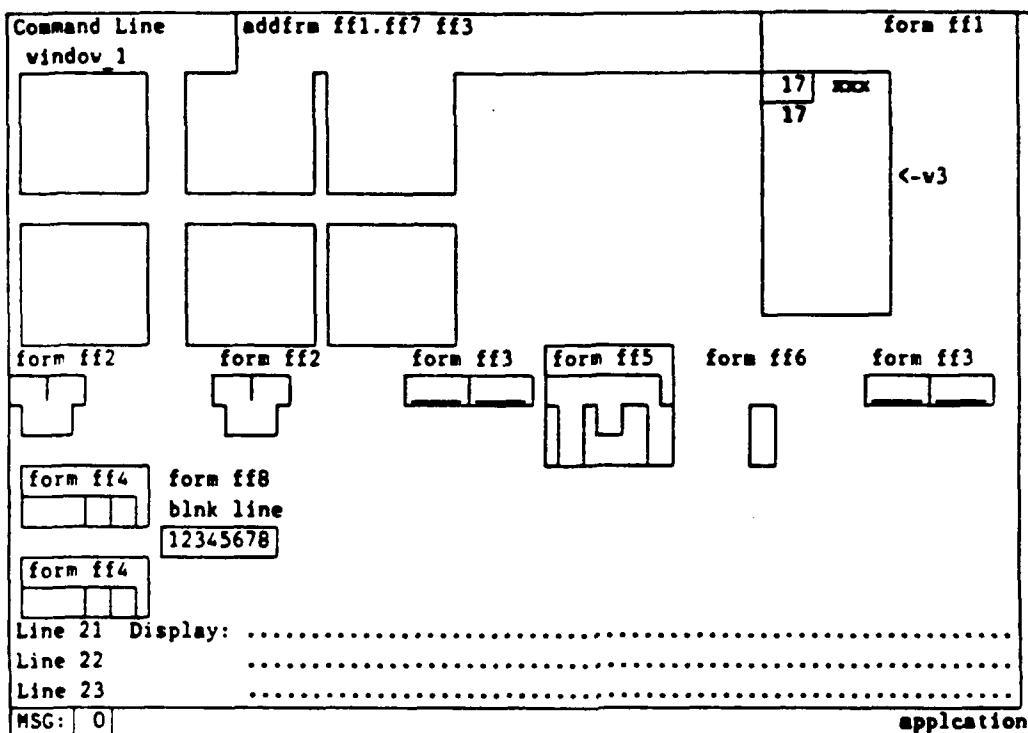


Figure 5-88d ADDFRM Result

Form ff3 does appear where the form ff7 was.

Command Line			setval ff14 i1 """zzz"""			form ff1	
window 1						17 xxx 17 <-v3	
form ff2		form ff2		form ff3		form ff5	
form ff2		form ff2		form ff3		form ff6	
form ff4		form ff8 blink line 12345678		form ff4		form ff3	
Line 21 Display:							
Line 22							
Line 23							
MSG: 0		application					

Figure 5-89a SETVAL Test Case 1

Define a VALUE clause for the item field i1 on the form ff14 which is displayed in window w3.

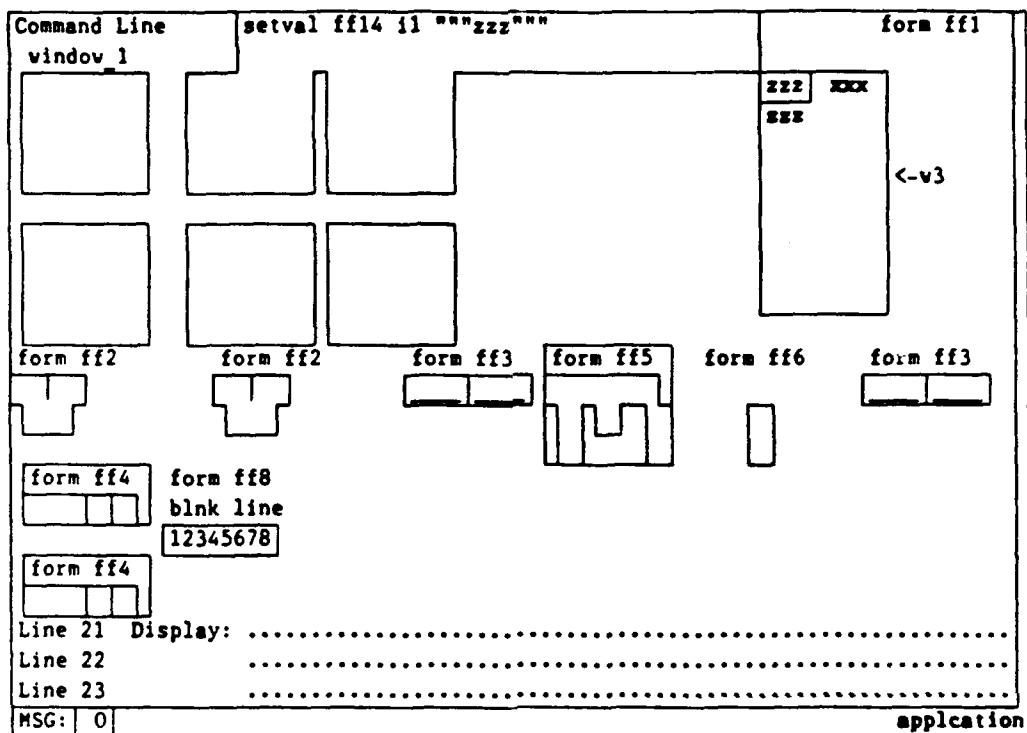


Figure 5-89b Case 1 Result

The VALUE clause defines the value of i1 to be "zzz". Since i2 has a value clause set as "i1", "zzz" is also displayed as that field's value.

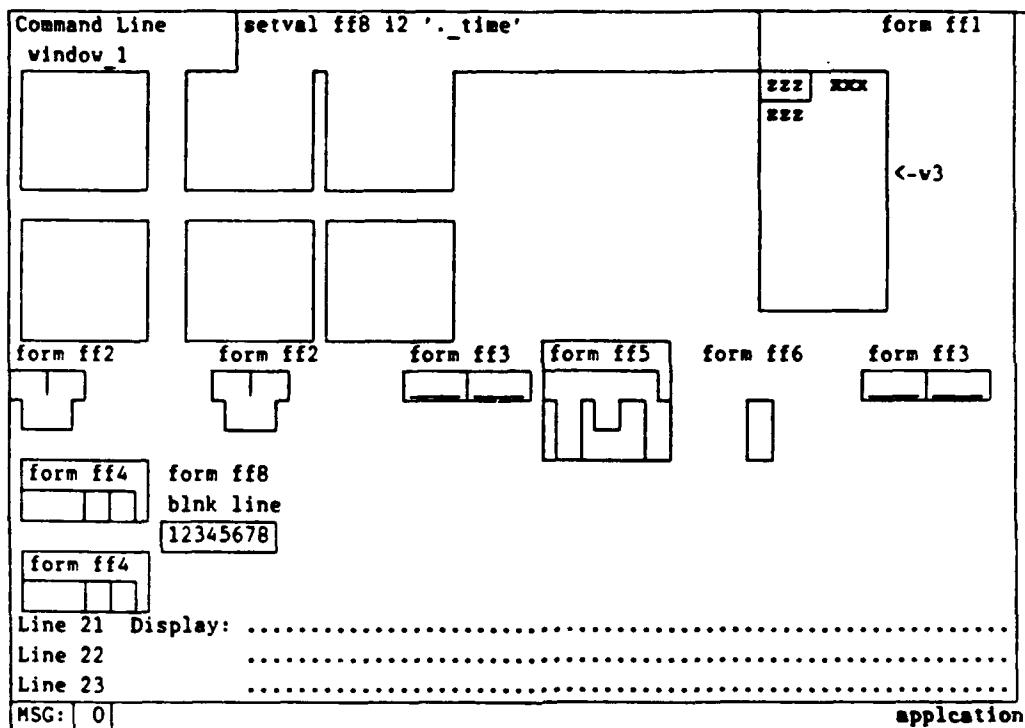


Figure 5-90a SETVAL Test Case 2

Define the value of the item i2 on ff8 to be the built-in TIME function.

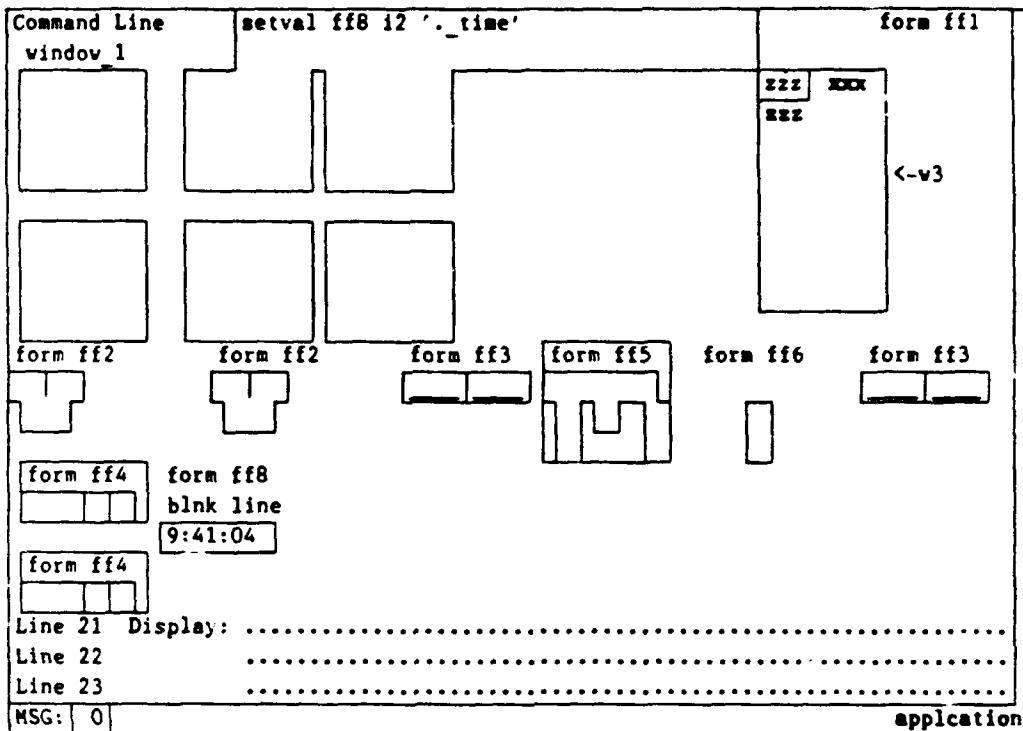


Figure 5-90b Case 2 Result

The current time appears in the item field i2 on form ff8.

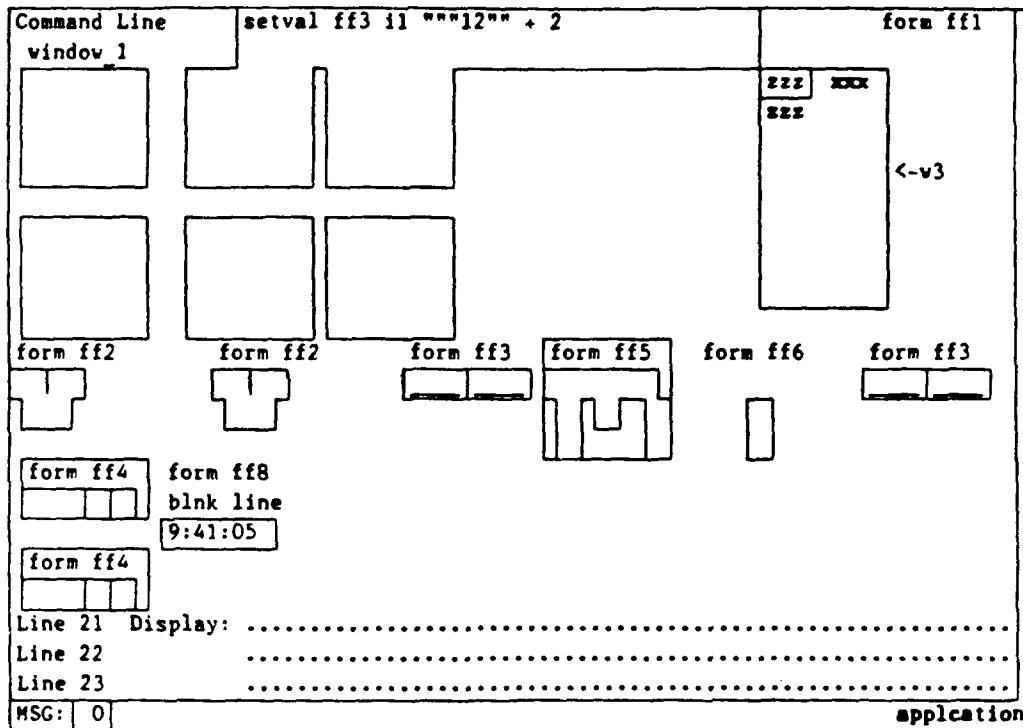


Figure 5-91a SETVAL Test Case 3

Define the value of the item field i1 on the form ff3 to be the expression "12" + 2.

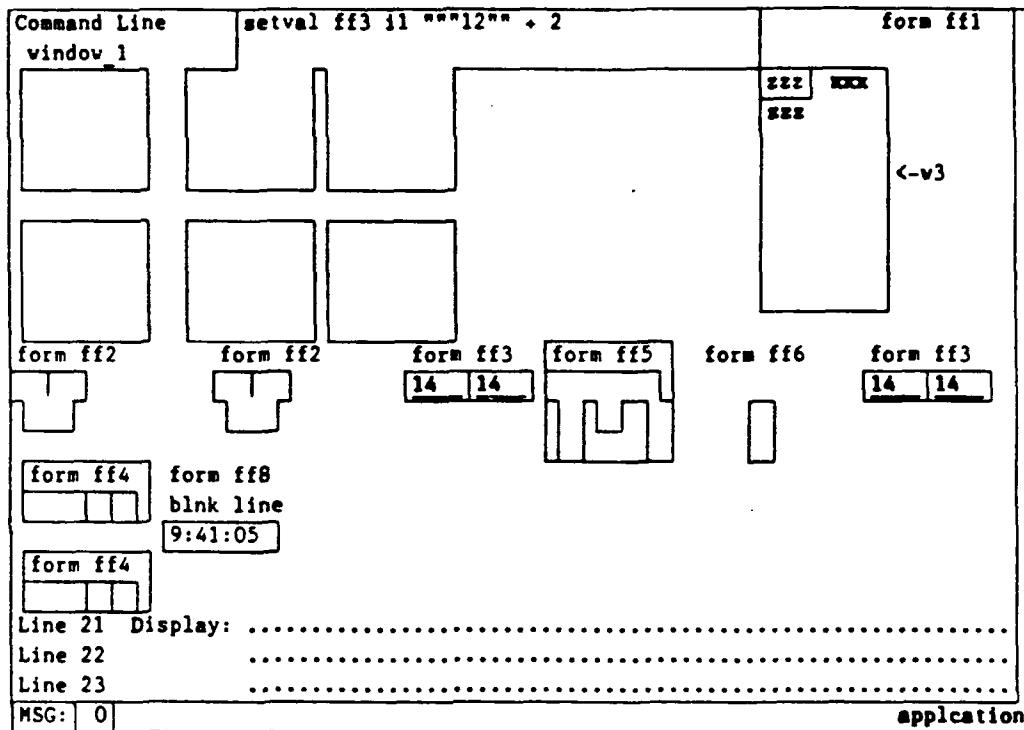


Figure 5-91b Case 3 Result

Since the item field i1 is a repeated field on the form ff3, the result of evaluating the expression, 14, is placed in each array instance. This test also shows that the appropriate conversion is done to perform the arithmetic.

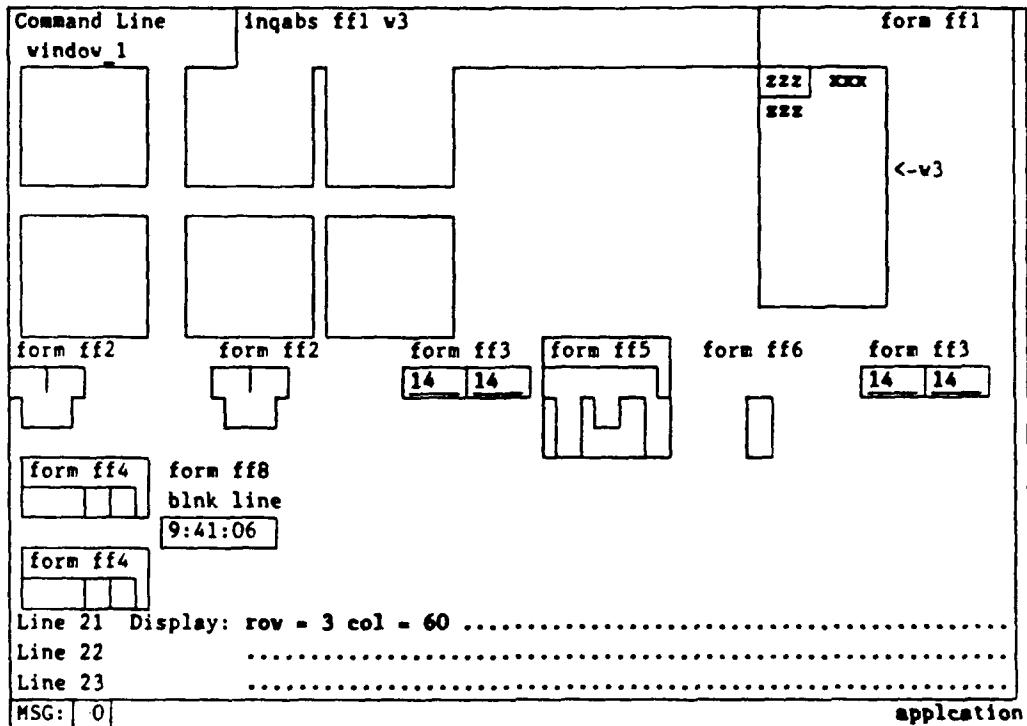


Figure 5-92a INQABS Test Case 1 with Result

Return the absolute position of window w3 on the form ff1. It is row 3 and column 60.

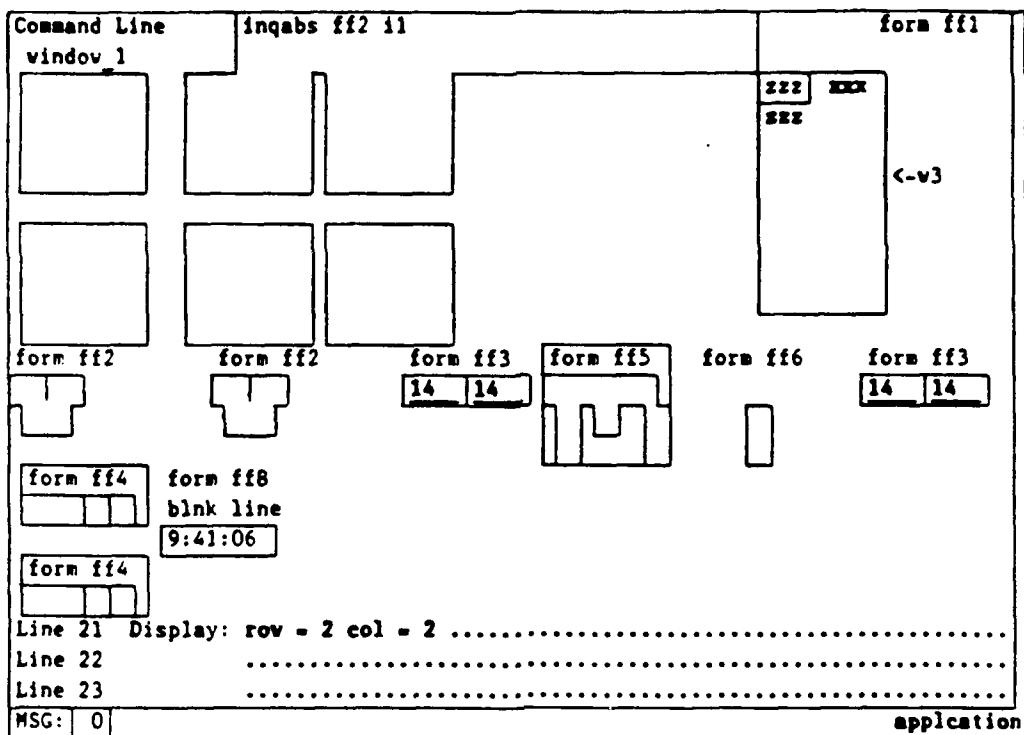


Figure 5-92b INQABS Test Case 2 with Result

Return the absolute position of item i1 on form ff2. It is row 2 and column 2.

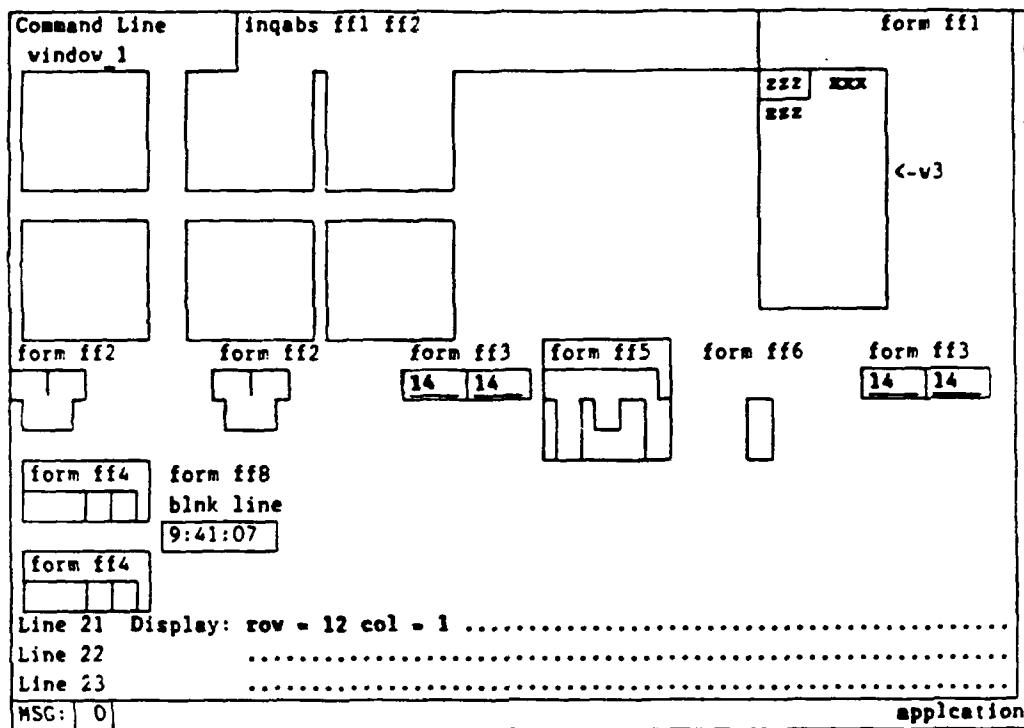


Figure 5-92c INQABS Test Case 3 with Result

Return the absolute position of form ff2 on form ff1. It is row 12 and column 1.

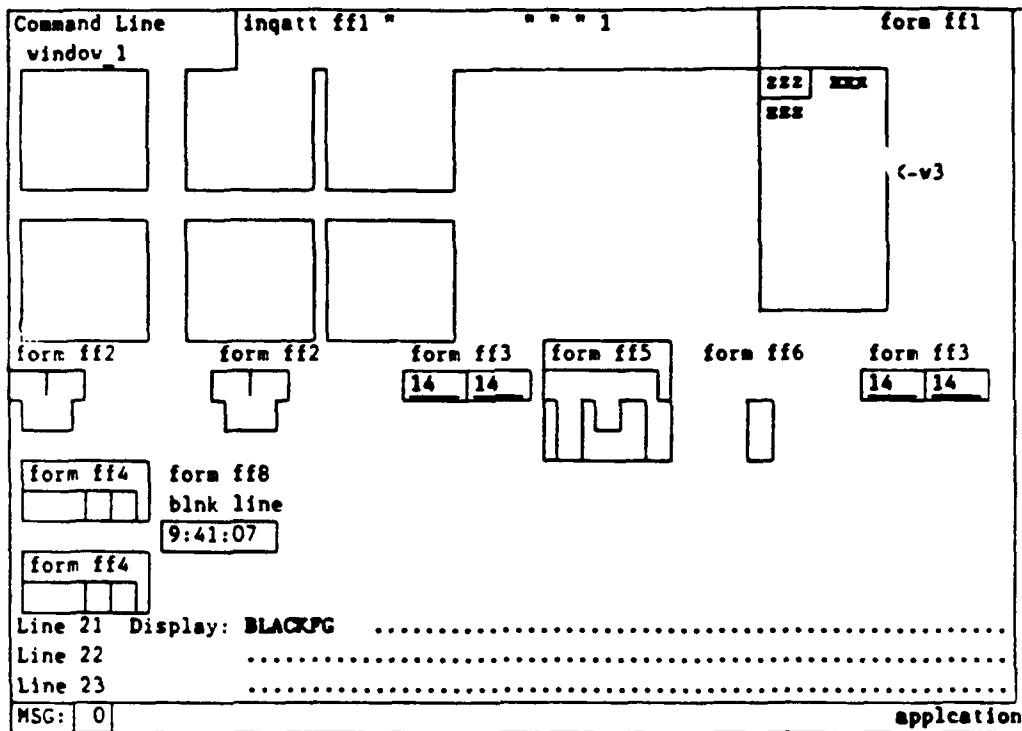


Figure 5-93a INQATT Test Case 1 with Result

Return the first attribute defined for the form ff1. It is BLACKFG.

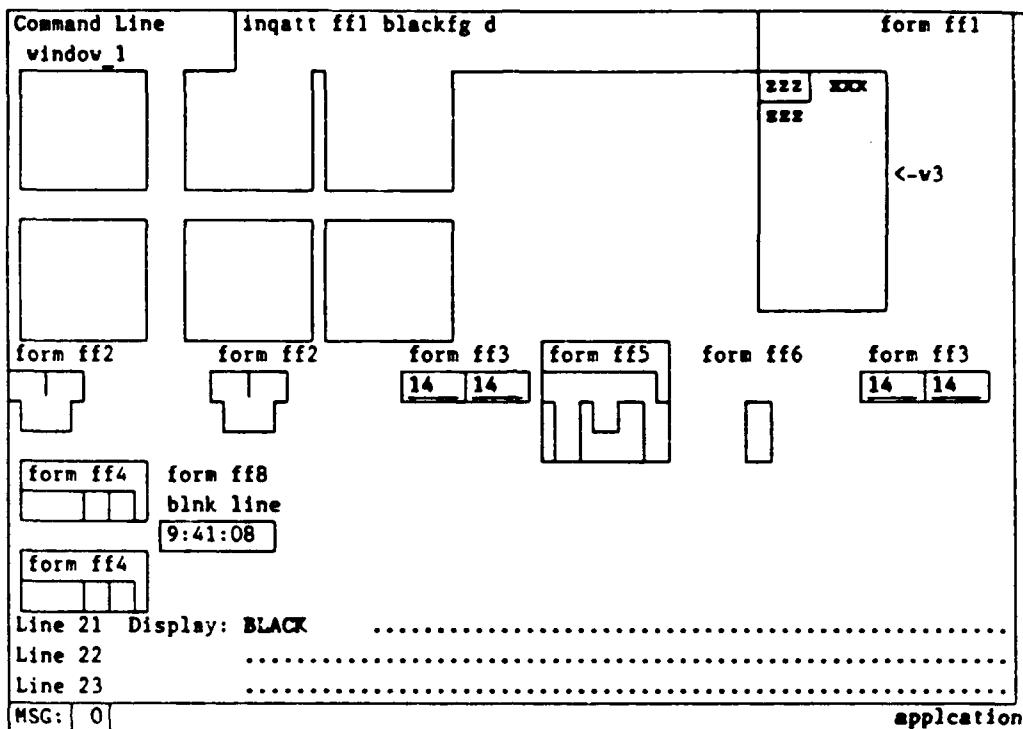


Figure 5-93b INQATT Test Case 2 with Result

Inquire what the display color associated with the attribute BLACKFG is. It is black.

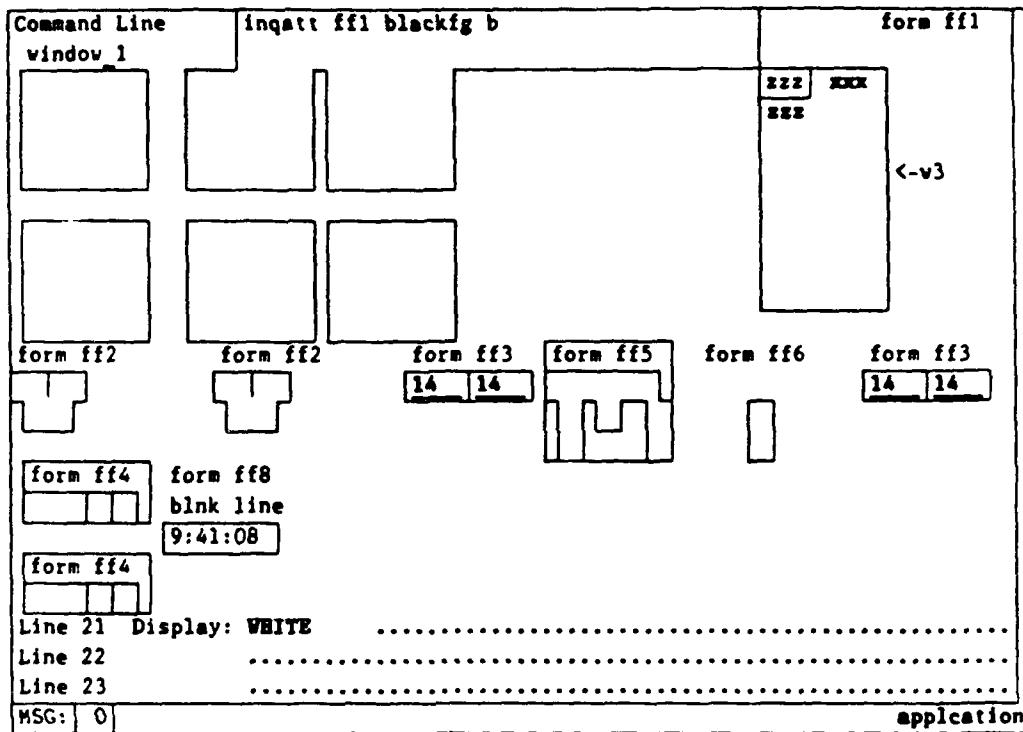


Figure 5-93c INQATT Test Case 3 with Result

Inquire what the background color associated with the attribute BLACKFG is. It is white.

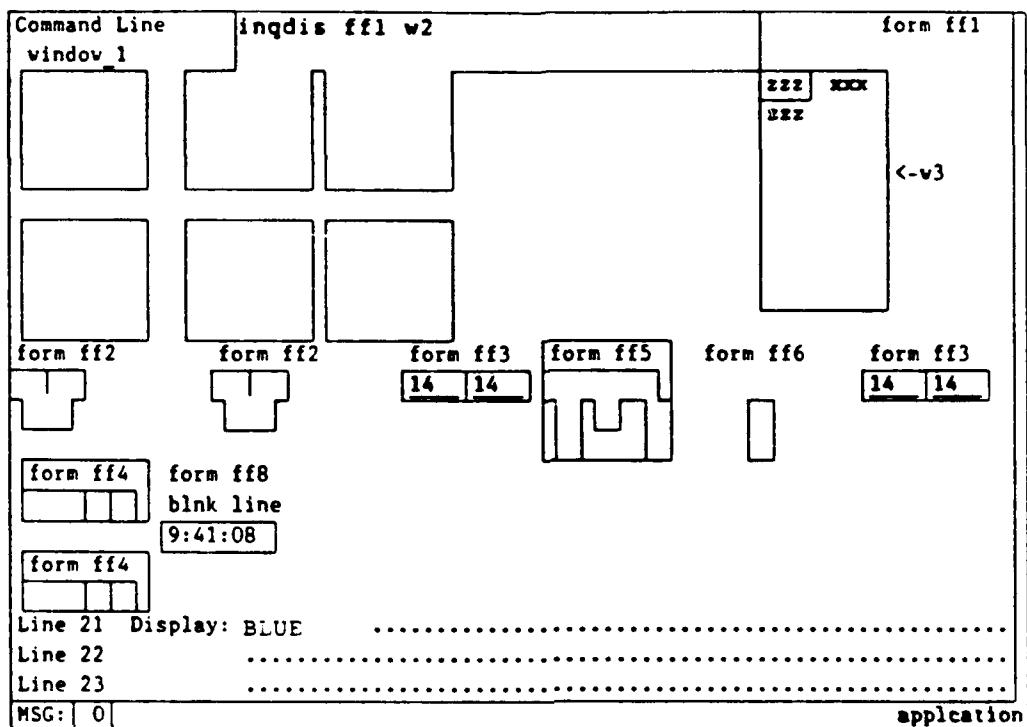


Figure 5-94a INQDIS Test Case 1 with Result

Return the background color attribute for ff1. It is BLUE.

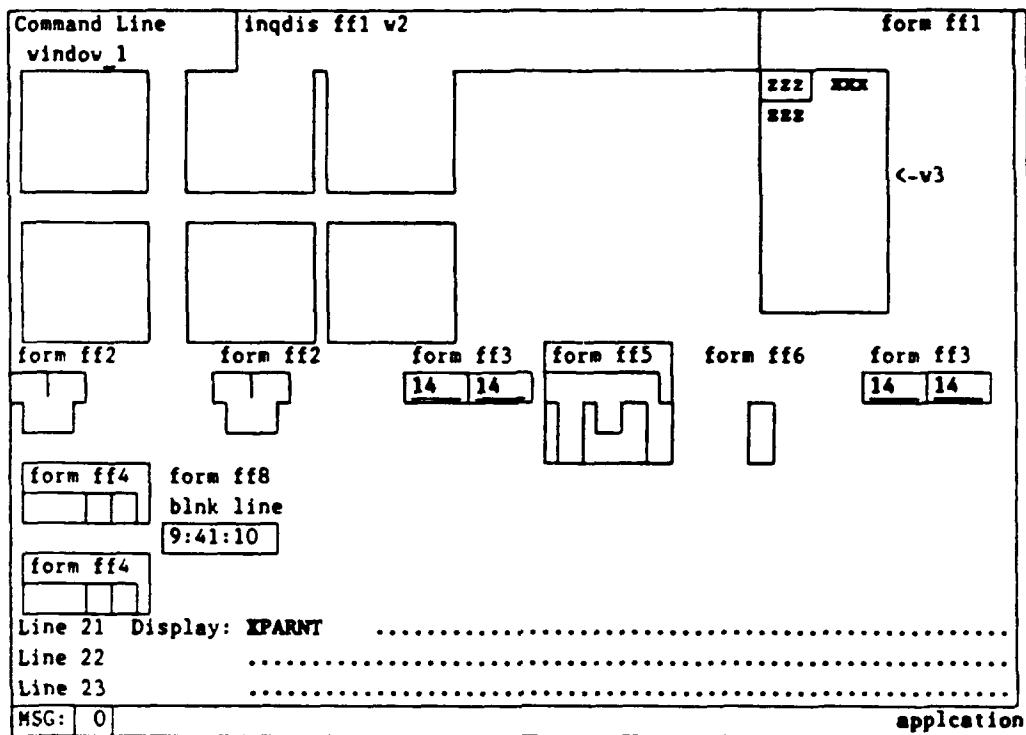


Figure 5-94b INQDIS Test Case 2 with Result

Return the background color attribute for the window w2 on the form ff1. It is XPARNT.

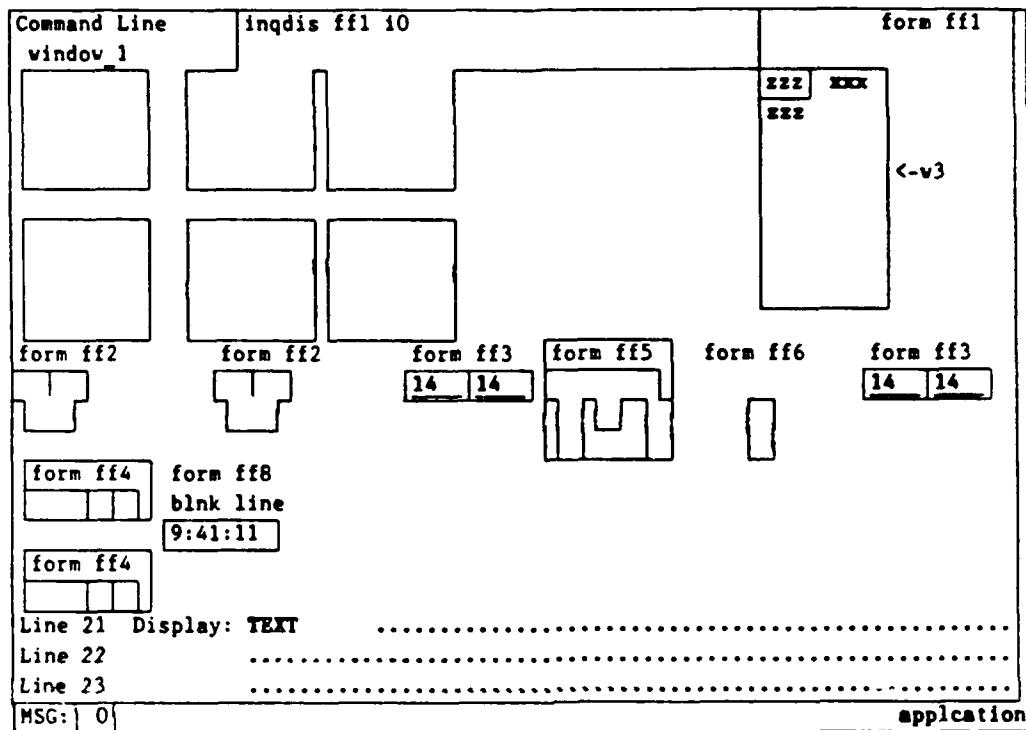


Figure 5-94c INQDIS Test Case 3 with Result

return the background color attribute for the form ff2 on the form ff1. It is XPARNT.

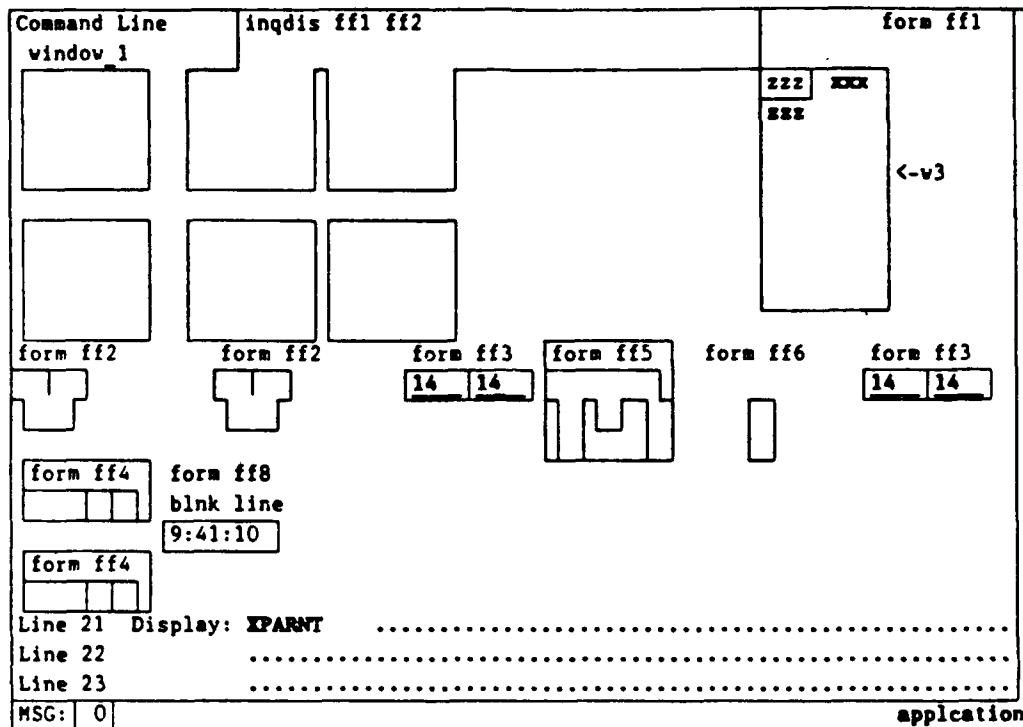


Figure 5-94d INQDIS Test Case 4 with Result

Return the display attribute for the item field i0 on the form ff1. It is TEXT.

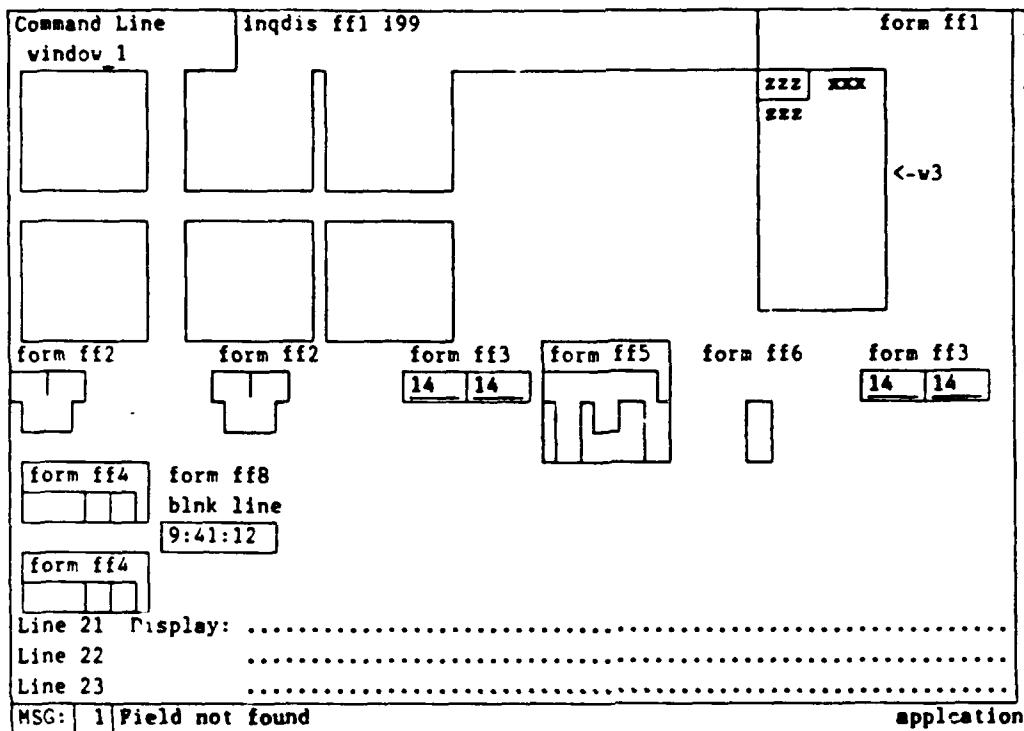


Figure 5-94e INQDIS Test Case 5 with Result

Inquire what is the display attribute for a non-existent field, 199, on form ff1. The message "Field not found" is sent to the message line.

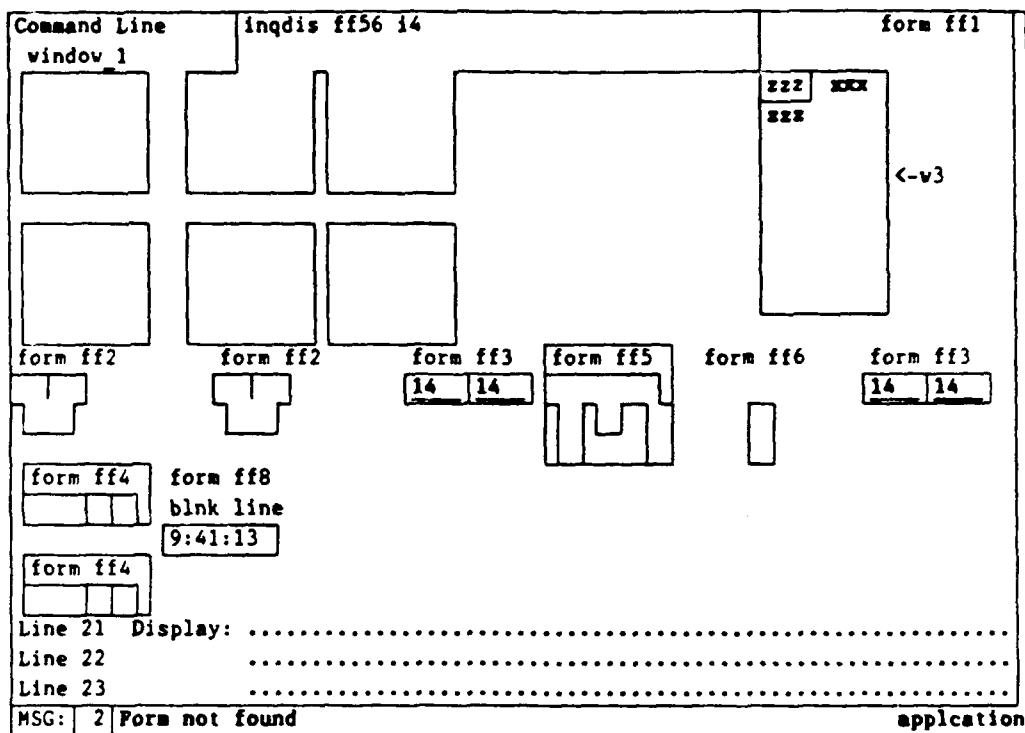


Figure 5-94f INQDIS Test Case 6 with Result

Inquire what the display attribute is for a field on a nonexistent form, ff56. The message "Form not found" is sent to the message line.

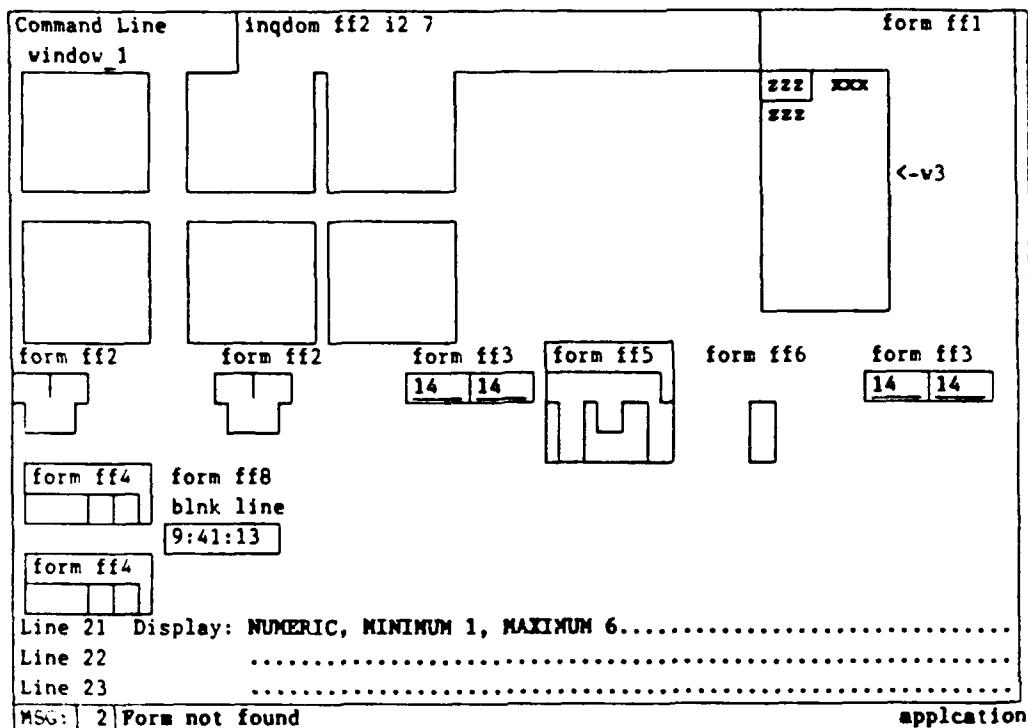


Figure 5-95 INQDOM Test Case with Result

Return the entire DOMAIN clause associated with the item field i2 on form ff2. It is NUMERIC, MINIMUM 1, MAXIMUM 6.

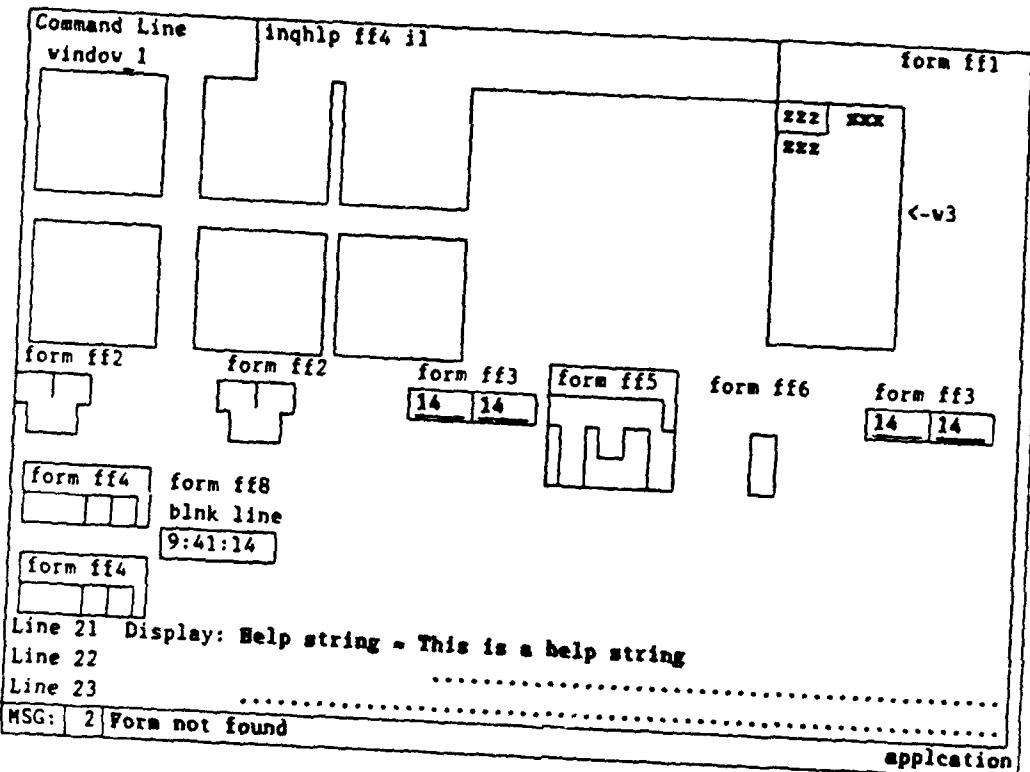


Figure 5-96a INQHLP Test Case 1 with Result

Inquire what the "help" associated with the item field i1 on form ff4 is. The help for this field is the string "This is a help string".

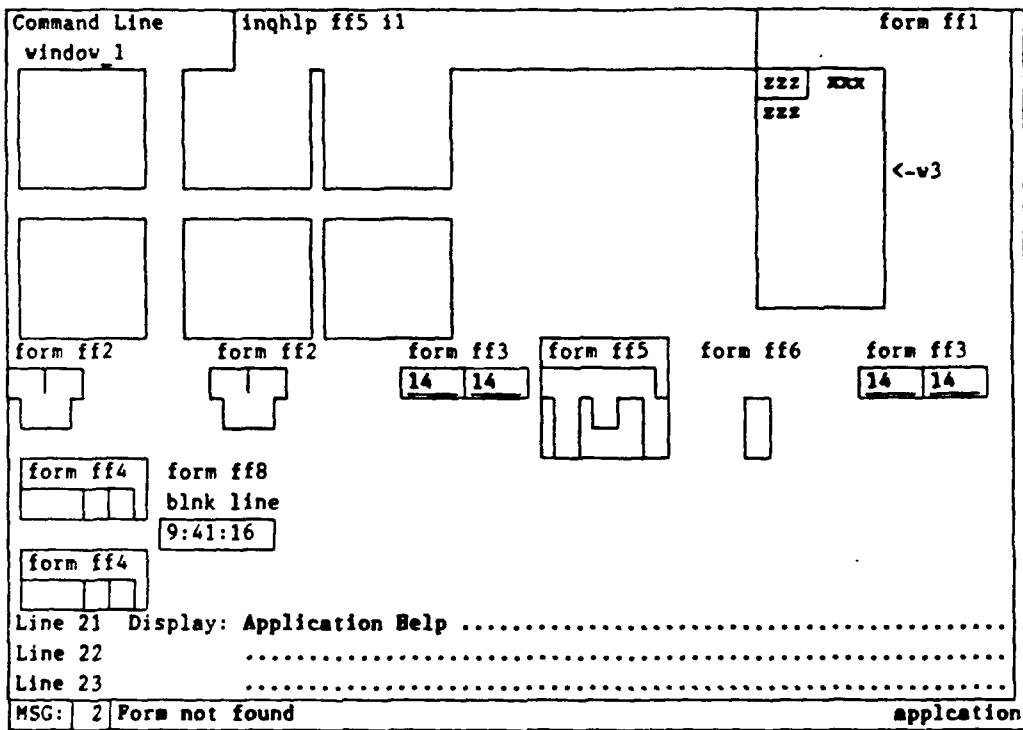


Figure 5-96b INQHLP Test Case 2 with Result

Inquire what is "help" associated with the item field i1 on the form ff5 is. The help has defined to be application help.

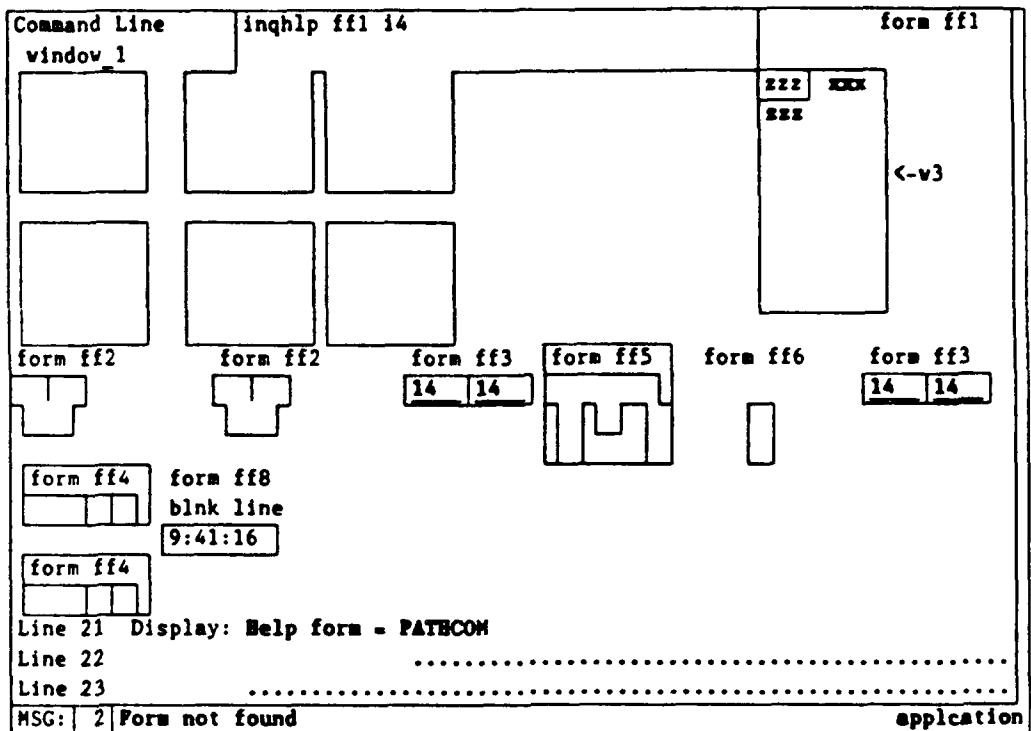


Figure 5-96c INQHLP Test Case 3 with Result

Inquire what is the "help" associated with the item field i4 on the form ff1. The help is the form PATHCOM.

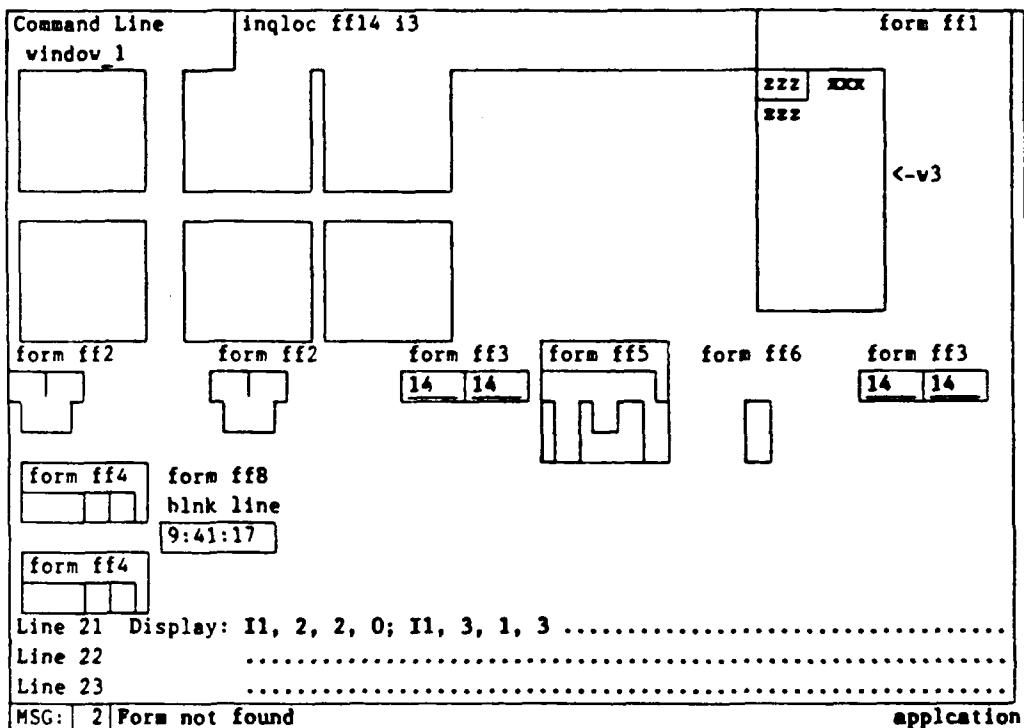


Figure 5-97a INQLOC Test Case 1 with Result

Return the location of the item field i3 on the form ff14. The location is specified relative to the field i1 and is adjacent to i1.

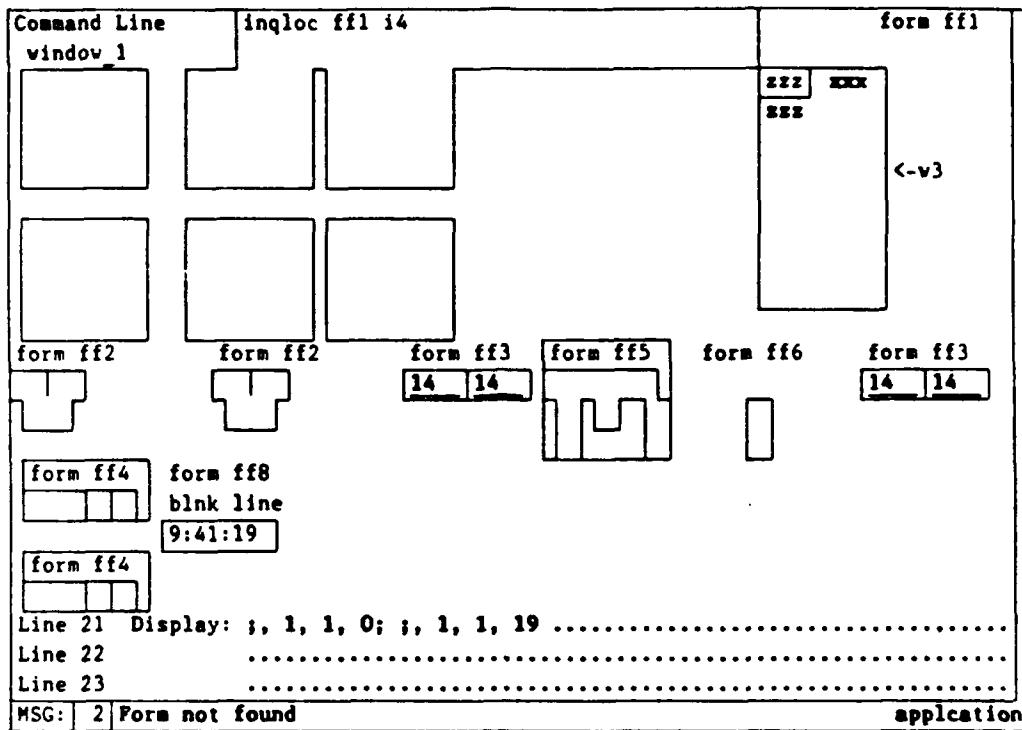


Figure 5-97b INQLOC Test Case 2 with Result

..
Return the location of the item field i4 on the form ff1. The position of field i4 is offset 1 row 19 columns from the origin of ff1.

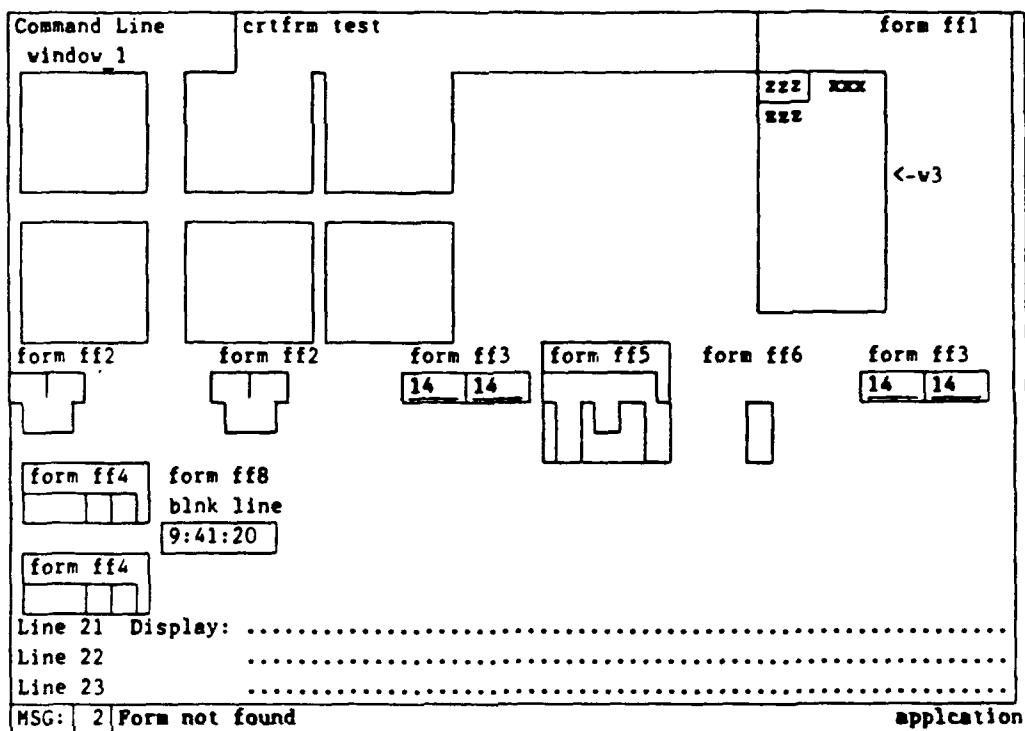


Figure 5-98a INQPRO Test Preparation

Create the form test.

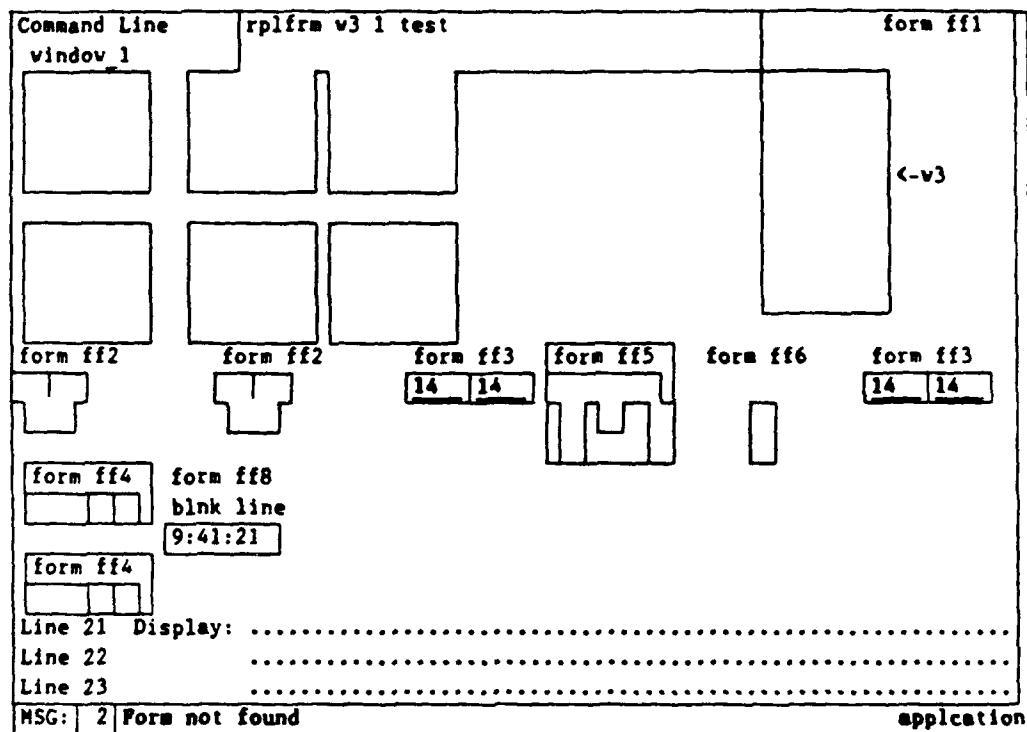


Figure 5-98b Display the Form Test

Add the form test to window w3.

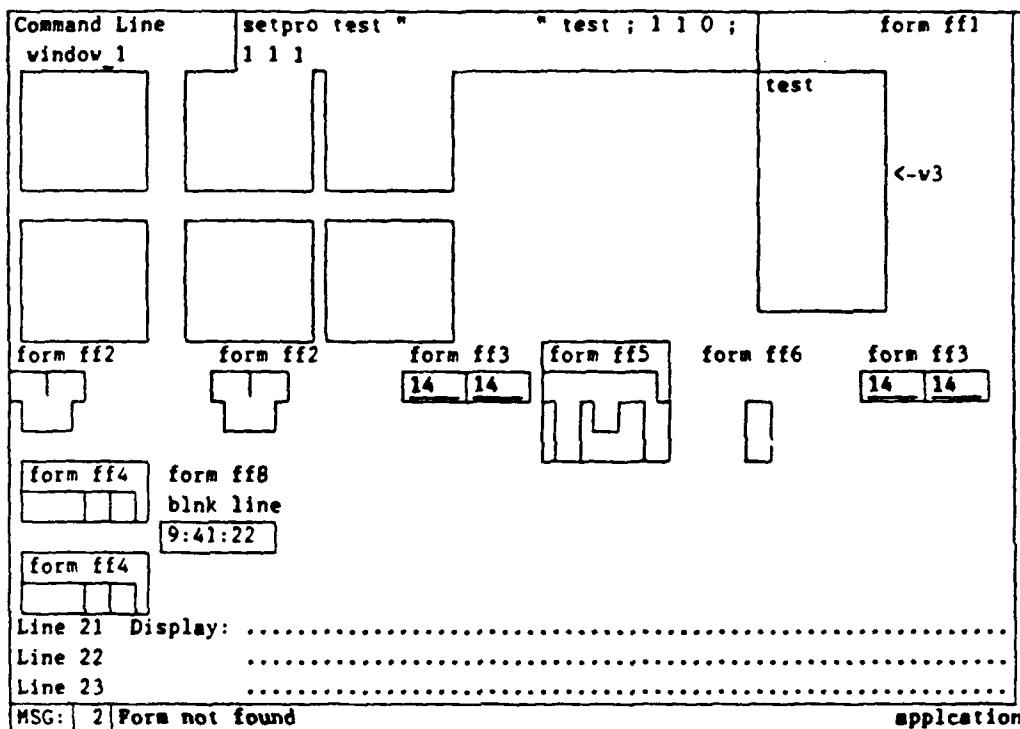


Figure 5-98c Add First Prompt

Add the form prompt "test".

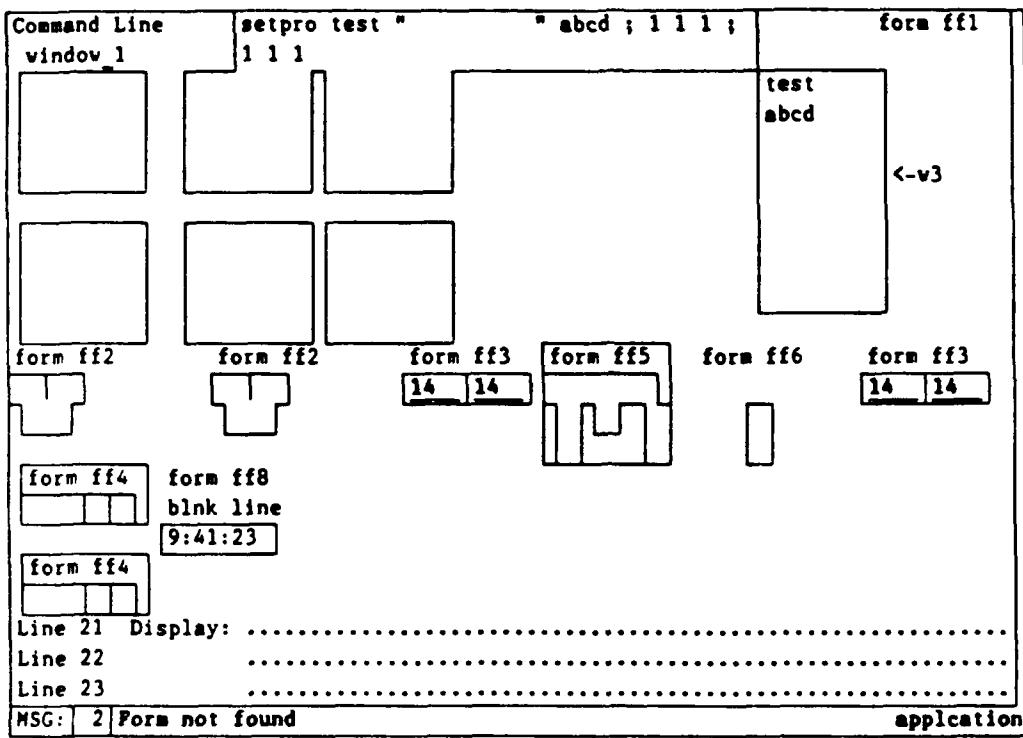


Figure 5-98d Add Second Prompt

Add the form prompt "abcd".

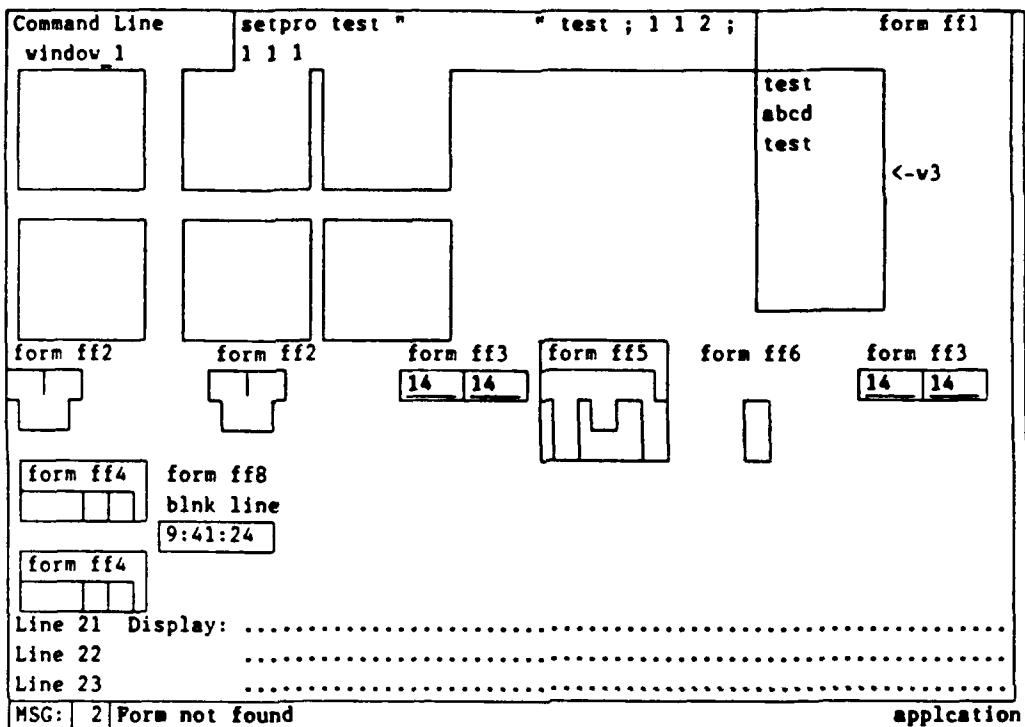


Figure 5-98e Add Third Prompt

Add another form prompt "test".

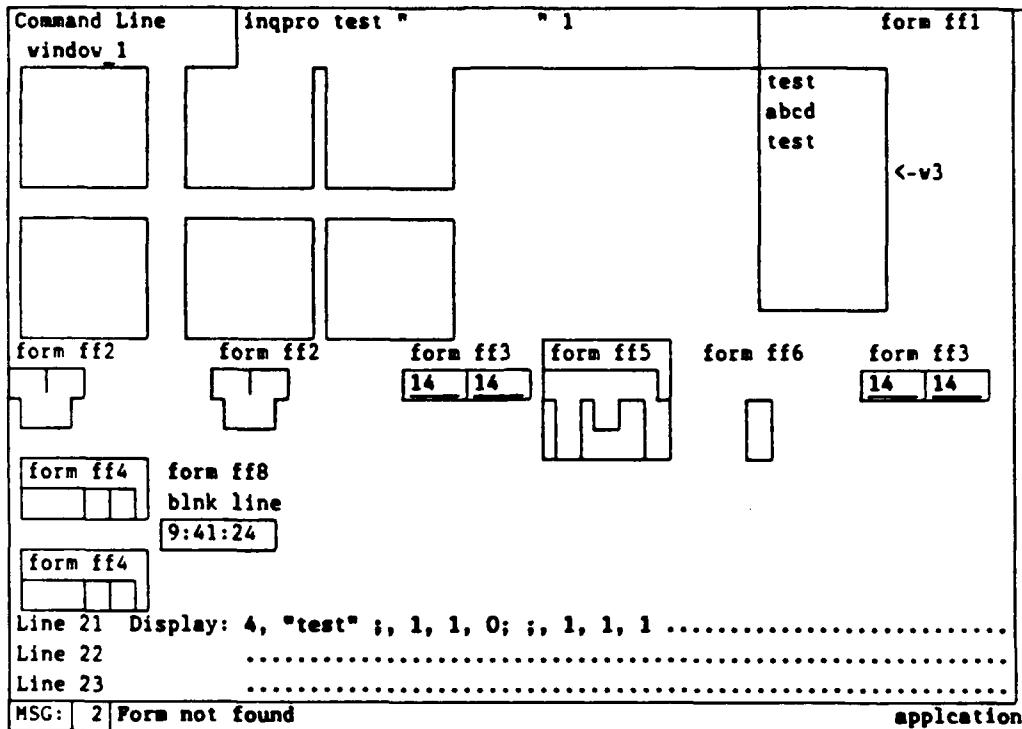


Figure 5-99a INQPRO Test Case 1 with Result

Return the first prompt string attached to the form test. It is the string "test". The location of the prompt is also returned and is 0 rows and 1 column from the upper left corner of the form test.

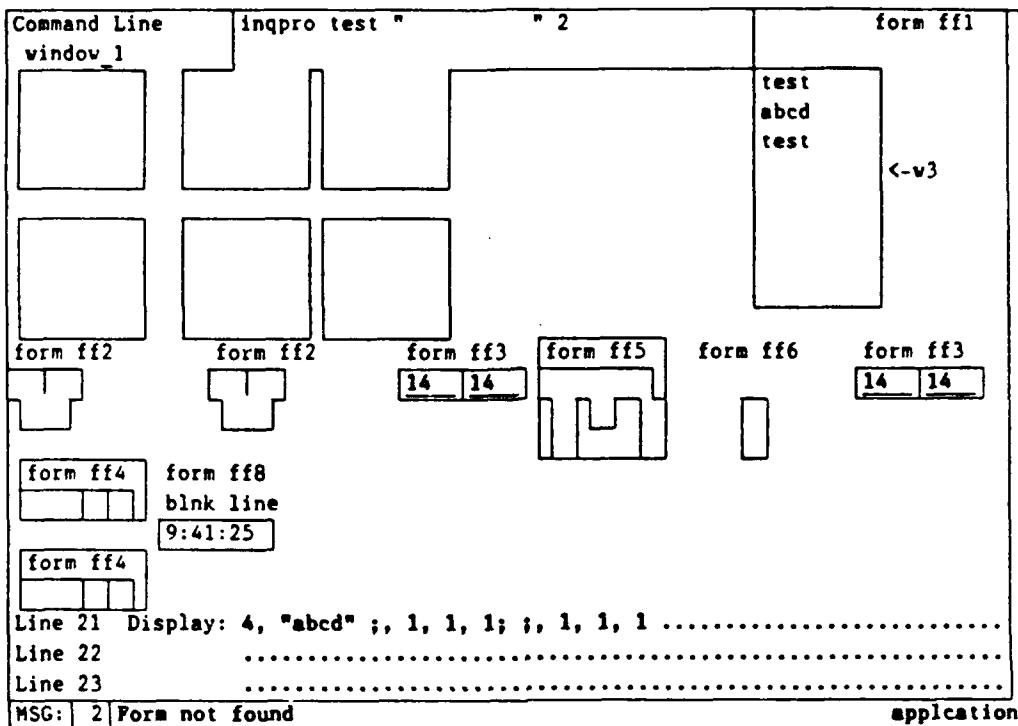


Figure 5-99b INQPRO Test Case 2 with Result

Return the second prompt string attached to the form test. It is the string "abcd". The location of the prompt is also returned and is 1 row and 1 column from the upper left corner of the containing form.

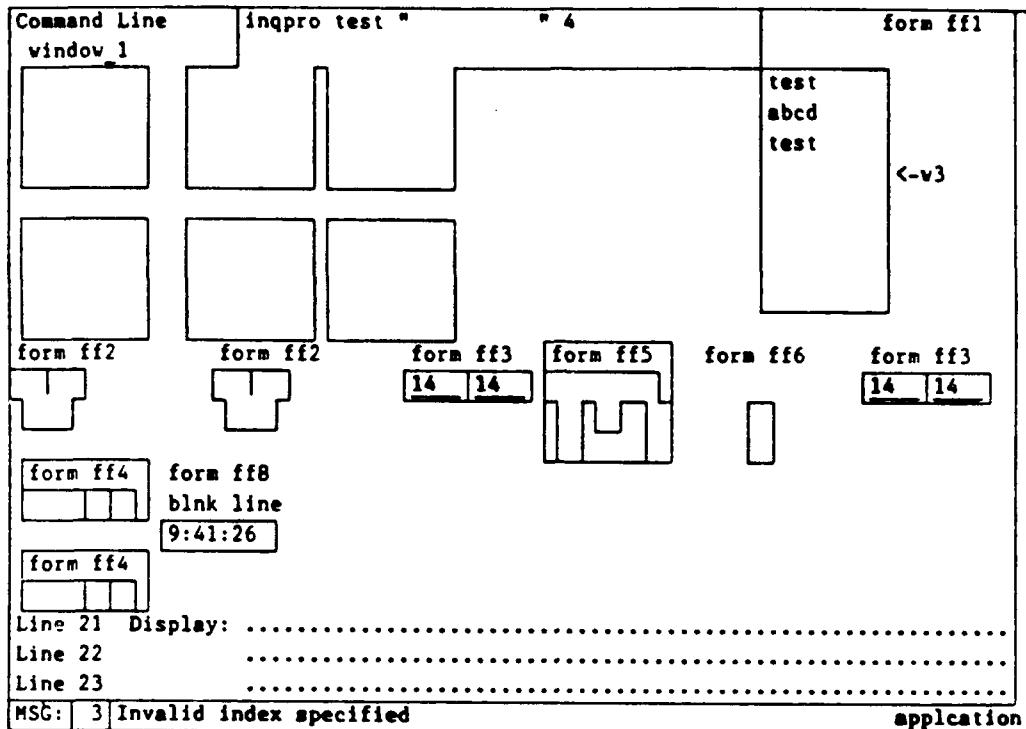


Figure 5-99c INQPRO Test Case 3 with Result

Inquire about a nonexistent prompt string on the form test. The error message "Invalid Index Specified" is returned.

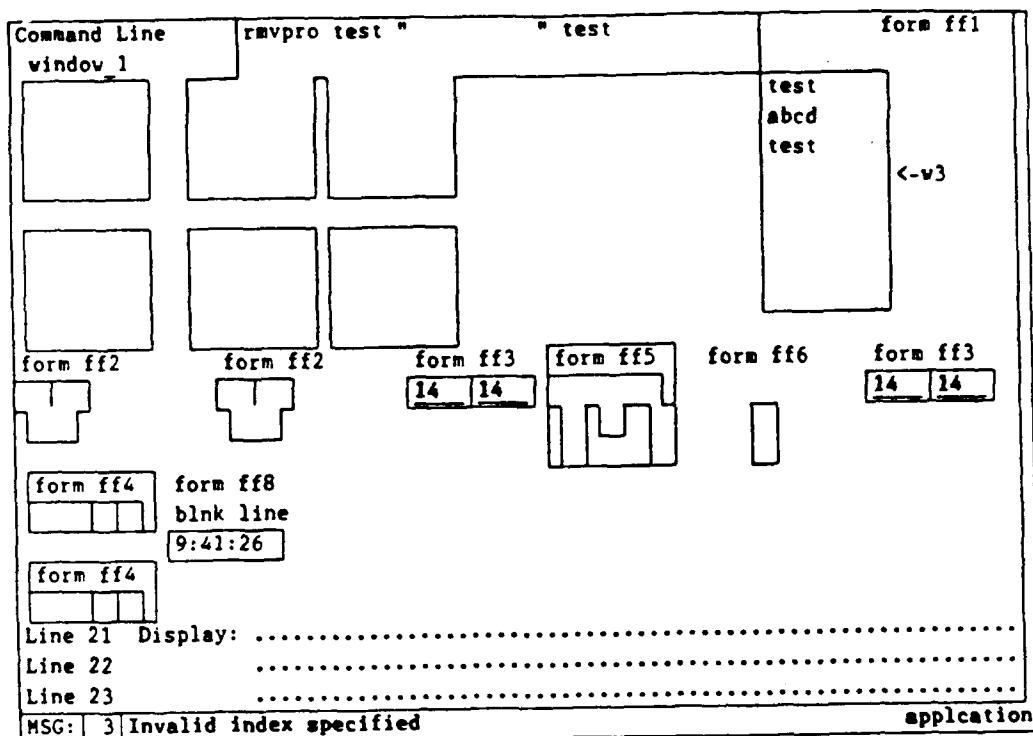


Figure 5-100a RMVPRO Test Case

Remove the prompt string "test" from the form test.

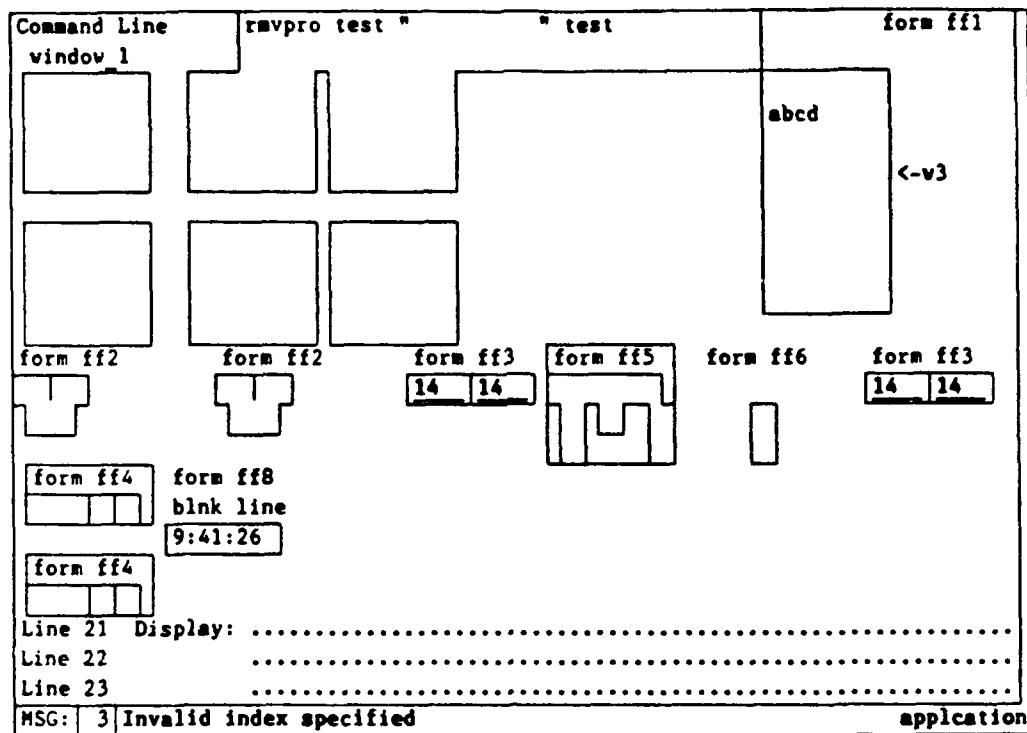


Figure 5-100b Test Result

Since the prompt string "test" occurs twice, they are both removed.

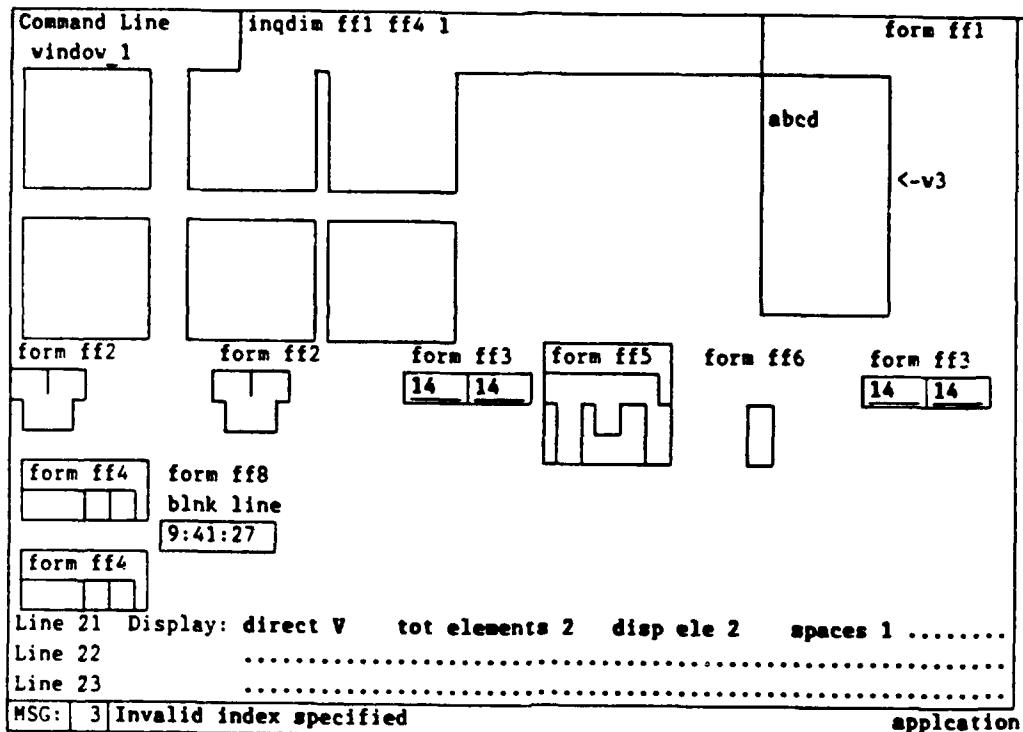


Figure 5-101a INQDIM Test Case 1 with Result

Return the first repeat specification of the field ff4 on the form ff1. The form ff4 is repeated vertically twice with one intervening space and both elements are displayed.

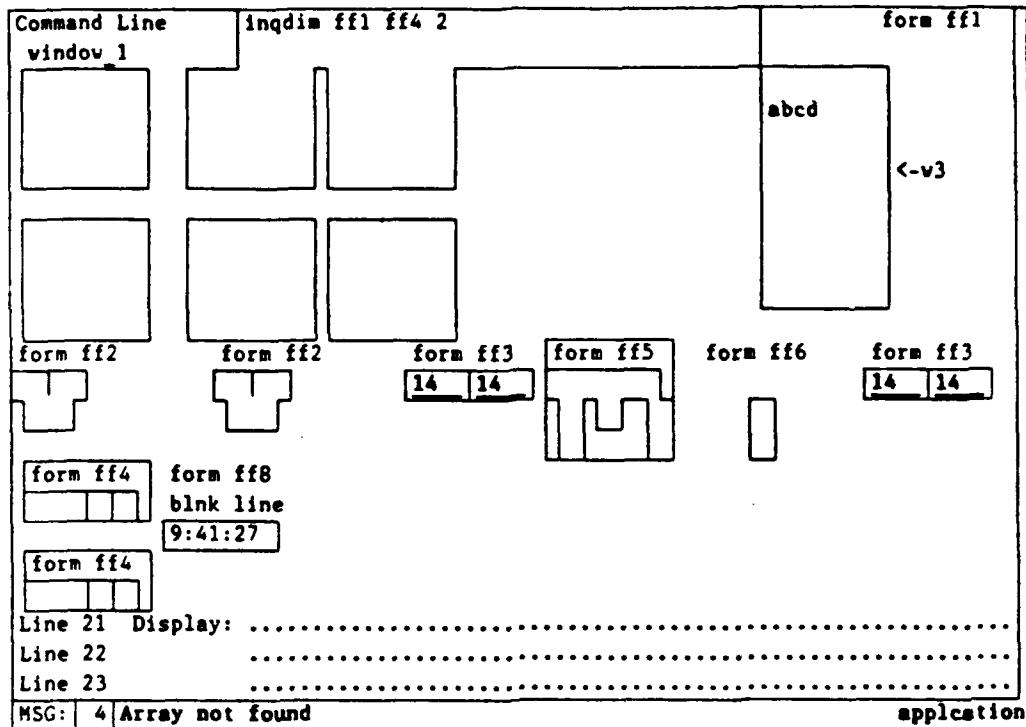


Figure 5-101b INQDIM Test Case 2 with Result

Inquire about a nonexistent repeat specification. The error message "Array Not Found" is displayed in the message line.

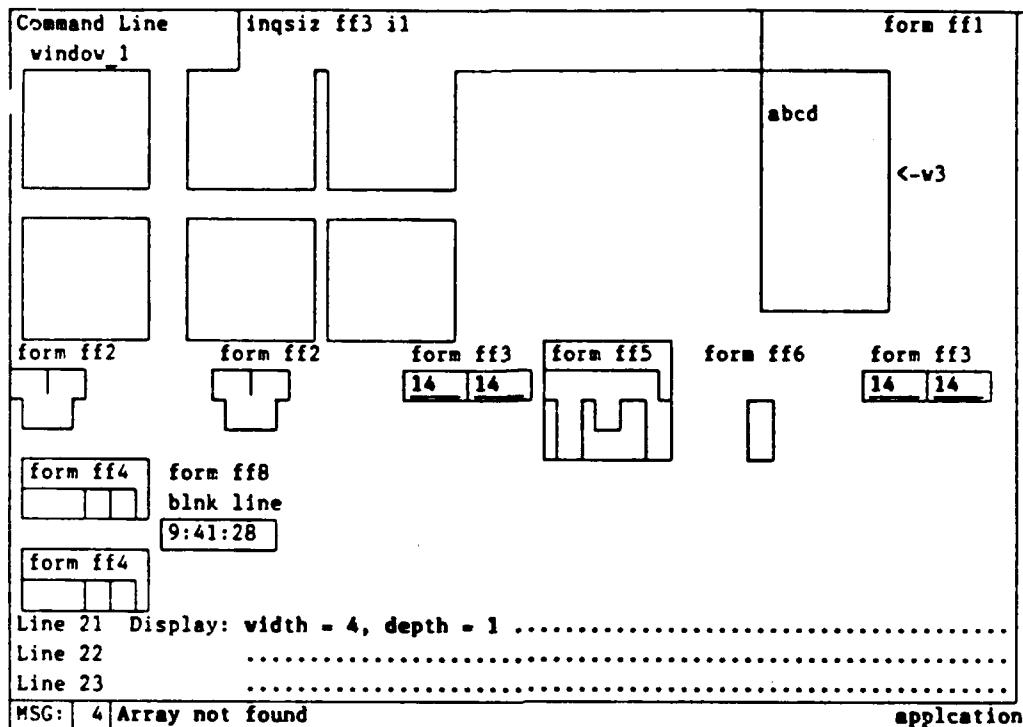


Figure 5-102a INQSIZ Test Case 1 with Result

Return the SIZE specification for the item field i1 on the form ff3. The field has a width of 4 and a depth of 1.

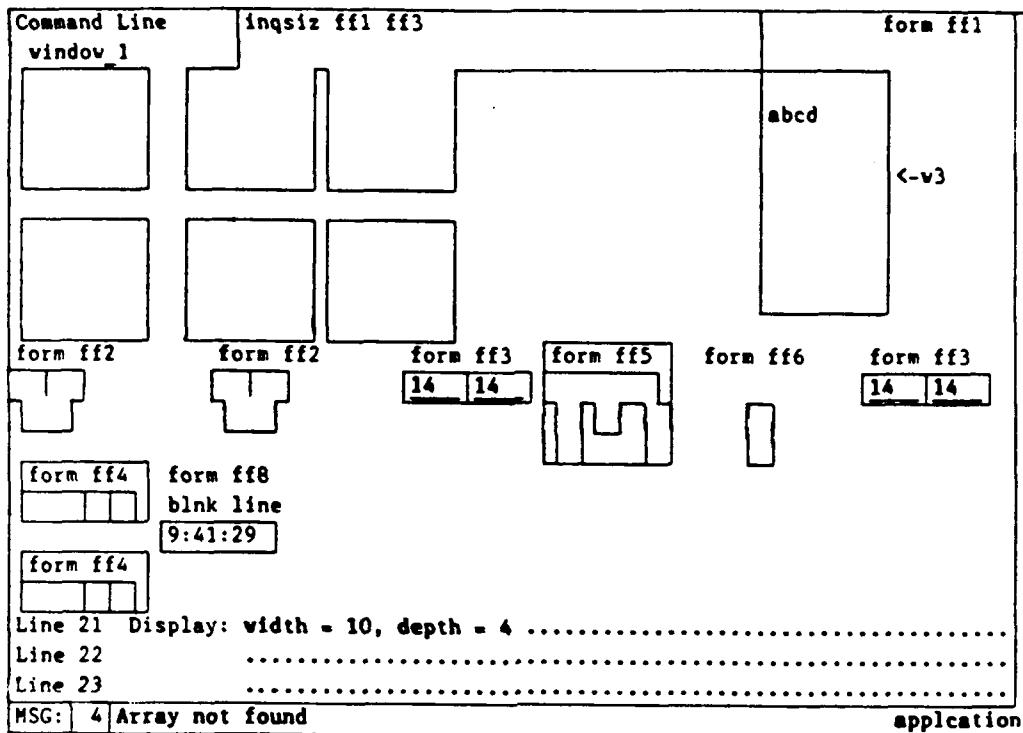


Figure 5-102b INQSIZ Test Case 2 with Result

Return the SIZE specification of the form field ff3 on the form ff1. The field has a width of 10 and a depth of 4.

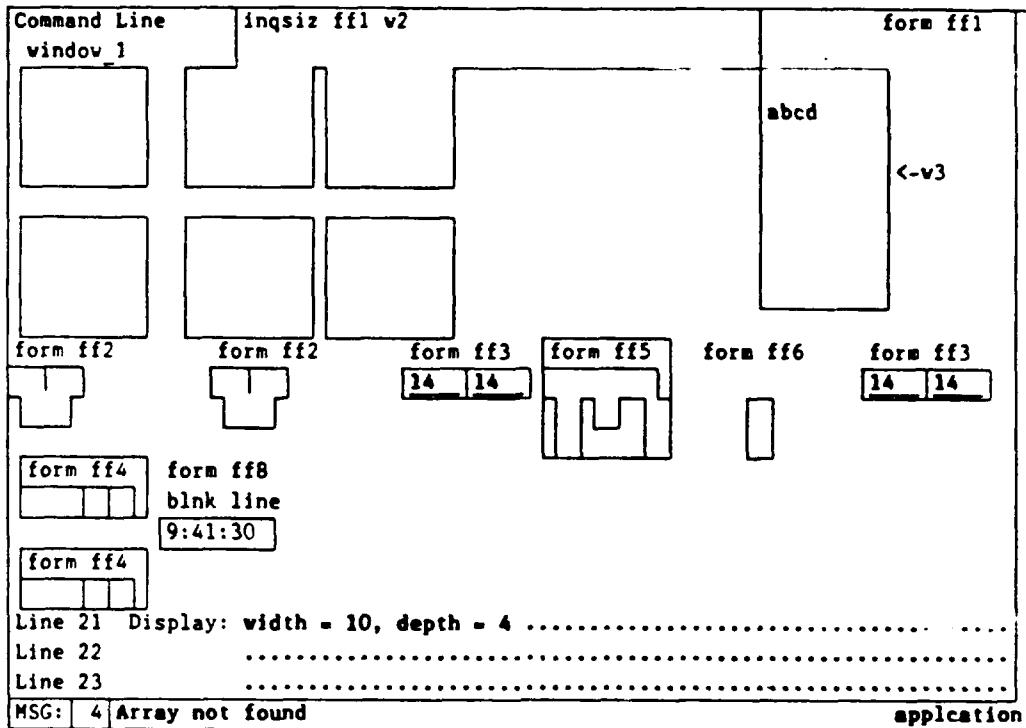


Figure 5-102c INQSIZ Test Case 3 with Result

Return the SIZE specification of the window field w2 on the form ff1. The field has a width of 10 and a depth of 4.

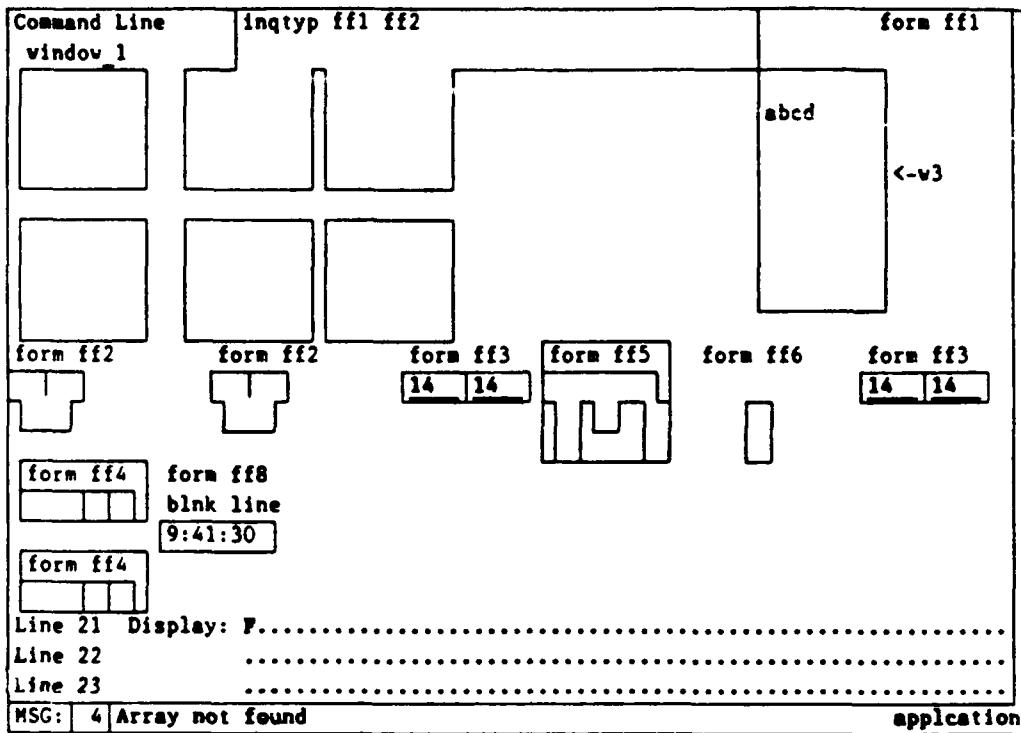


Figure 5-103a INQTYT Test Case 1 with Result

Inquire what type of the field ff2 on the form ff1 is. The type returned is "F" for form.

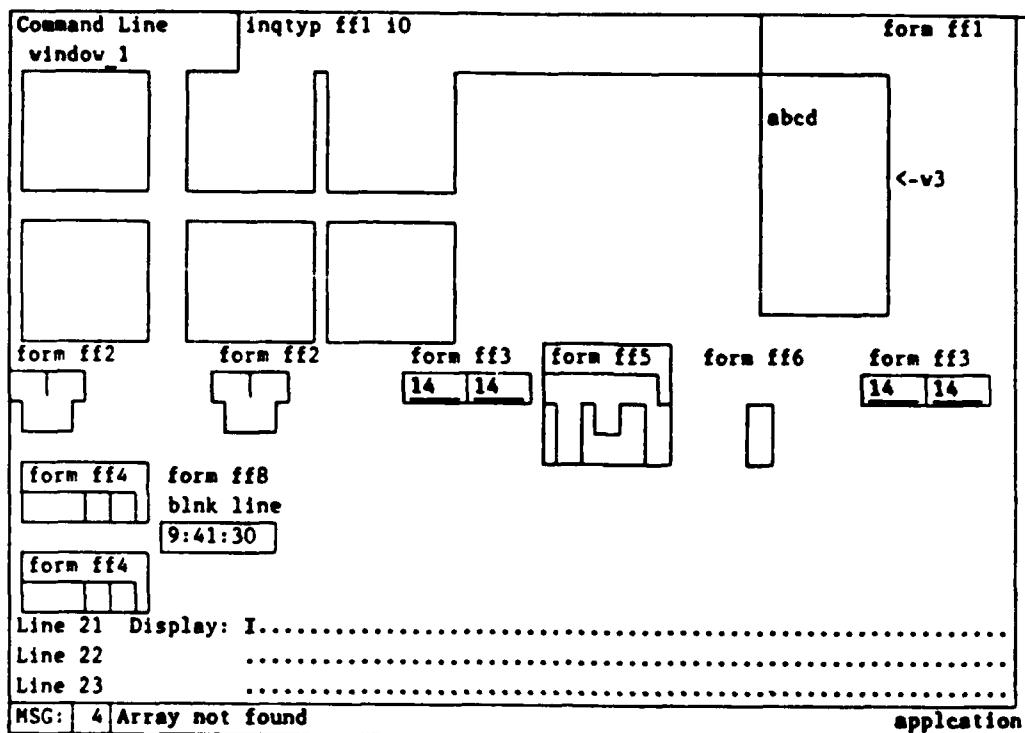


Figure 5-103b INQTYp Test Case 2 with Result

Inquire what the type of the field i0 on the form ff1 is. The type returned is "I" for item.

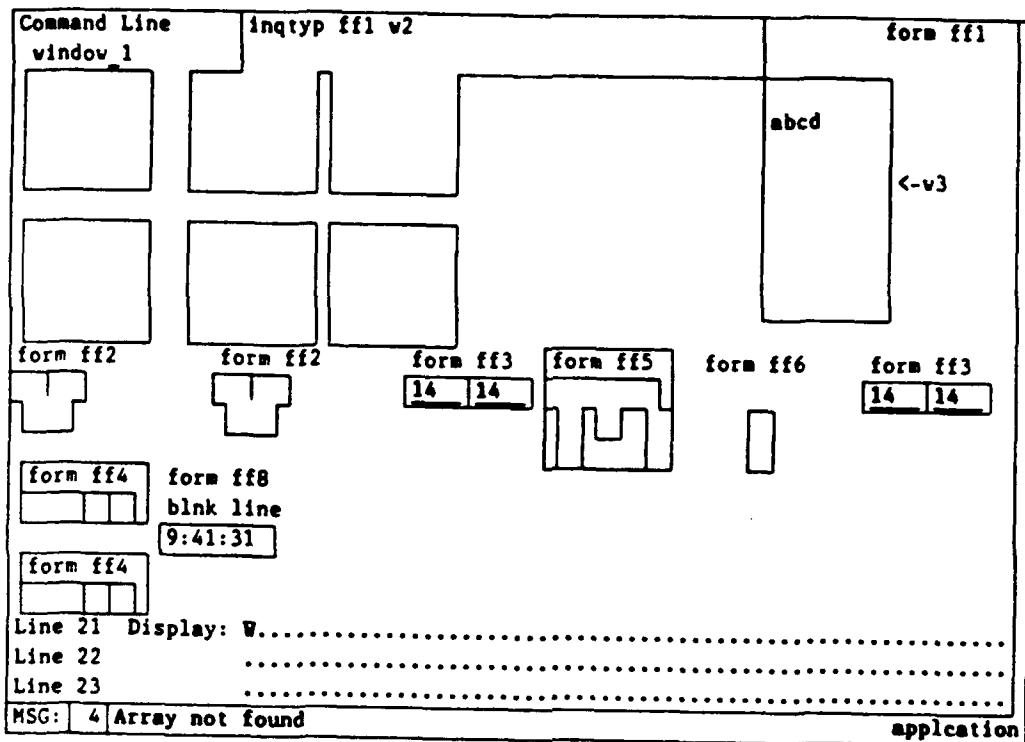


Figure 5-103C INQTYp Test Case 3 with Result

Inquire what type of the field w2 on the form ff1 is. The type returned is "W" for window.

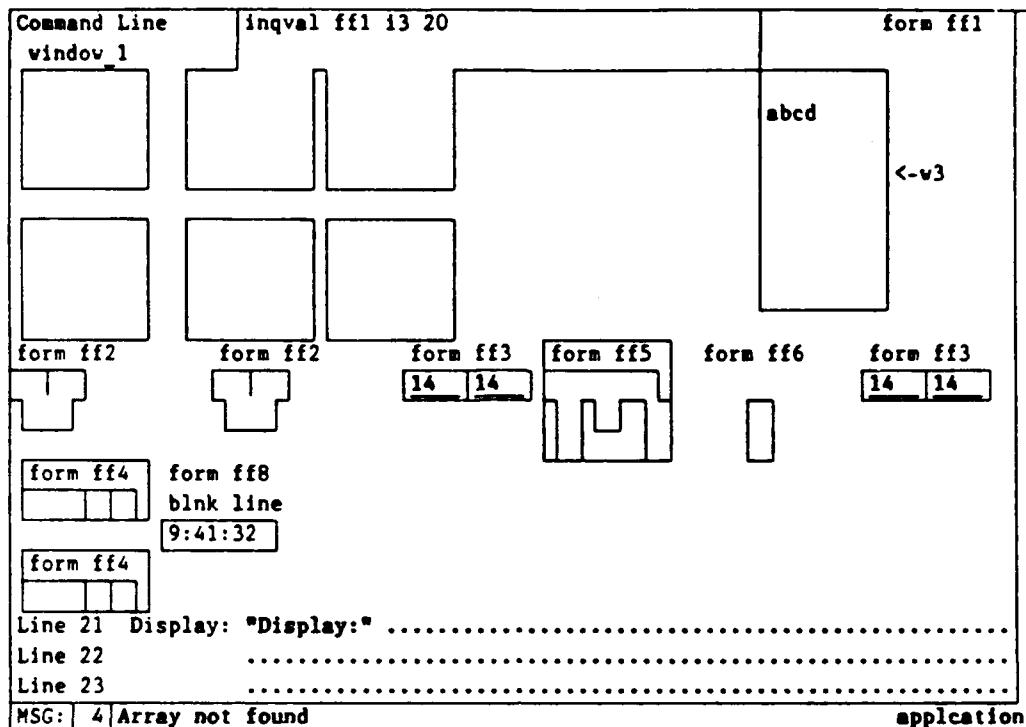


Figure 5-104 INQVAL Test Case with Result

Return the VALUE clause defined for the item field i3 on the form ff1. The result is "Display:".

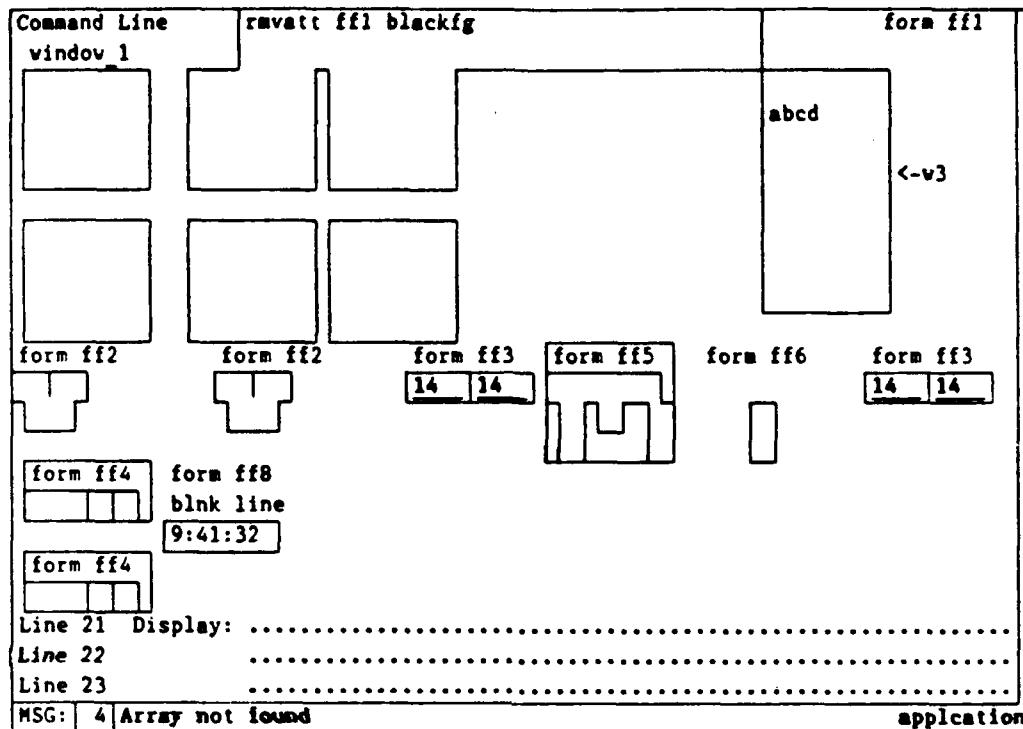


Figure 5-105a RMVATT Test Case 1

Remove the ATTRIBUTE clause defining the attribute BLACKFG for the form ffl1.

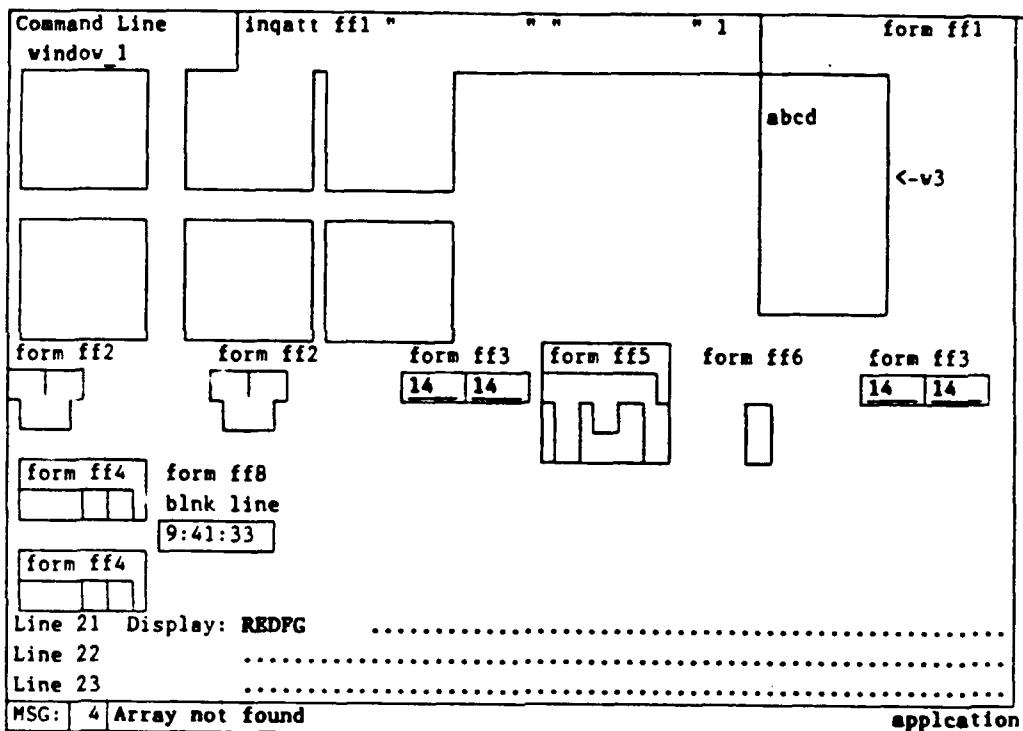


Figure 5-105b Verify Case 1 Result

The INQATT routine is used to verify that the attribute definition for BLACKFG has been deleted. BLACKFG was formerly the first attribute associated with form ff1. The first attribute is now REDFG.

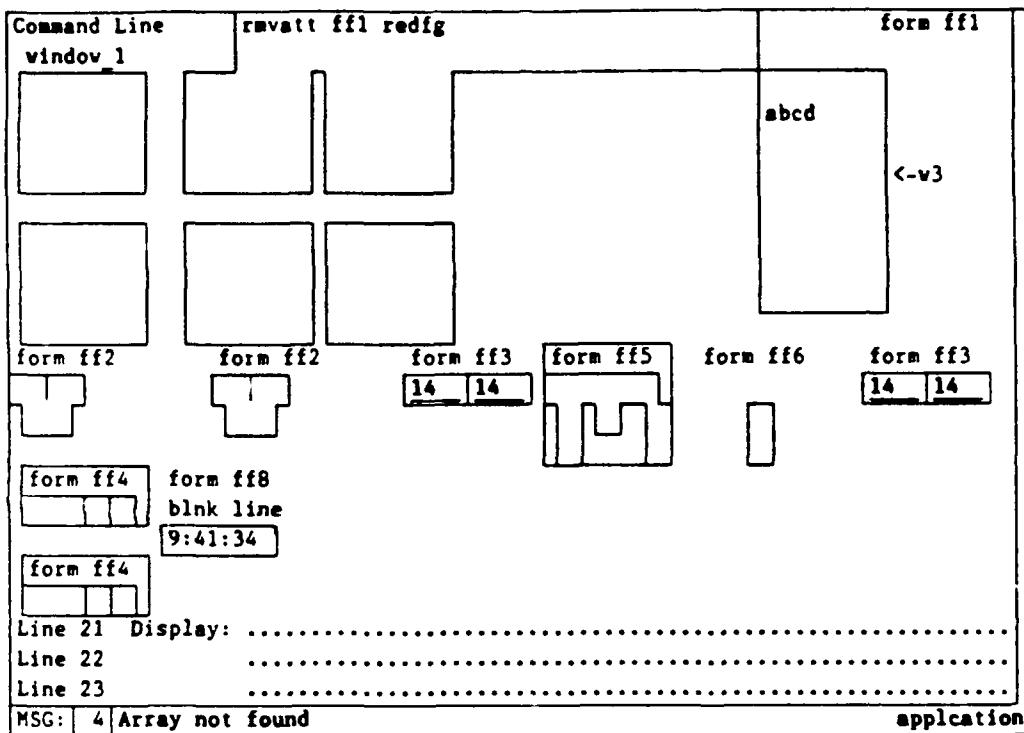


Figure 5-105c RMVATT Test Case 2

Remove the ATTRIBUTE clause defining REDFG as an attribute associated with the form ff1.

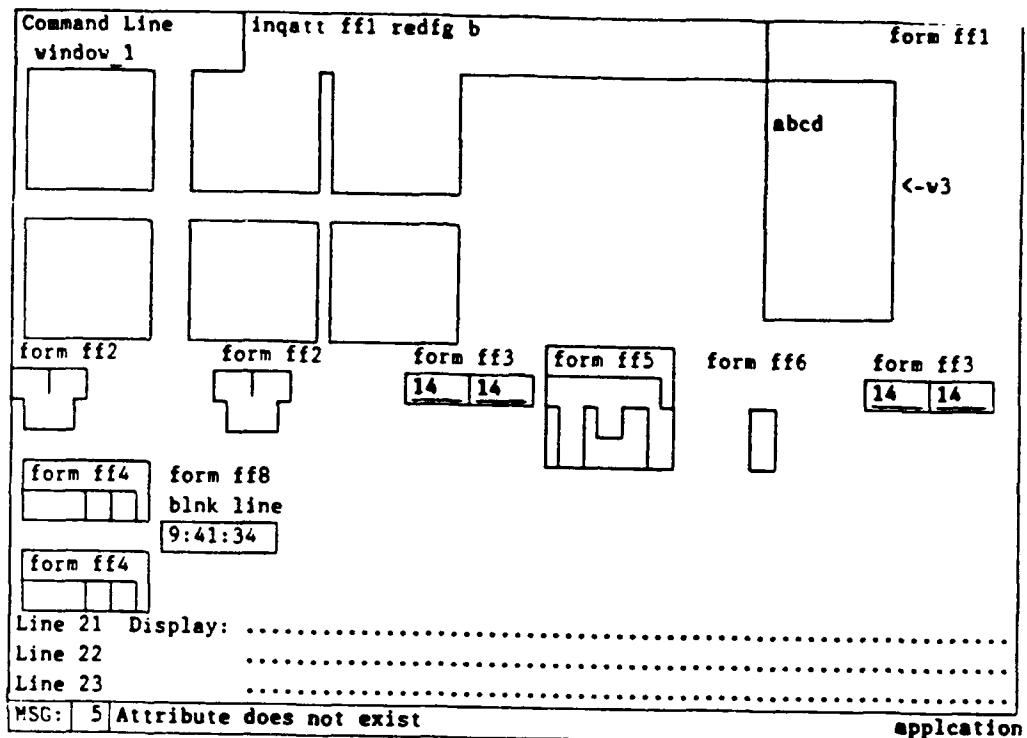


Figure 5-105d Verify Case 2 Result

The INQATT routine is used to verify that the attribute definition for REDFG has been deleted. This time the background color belonging to the attribute REDFG is requested. The message "Attribute does not exist" is issued proving the attribute definition has been deleted.

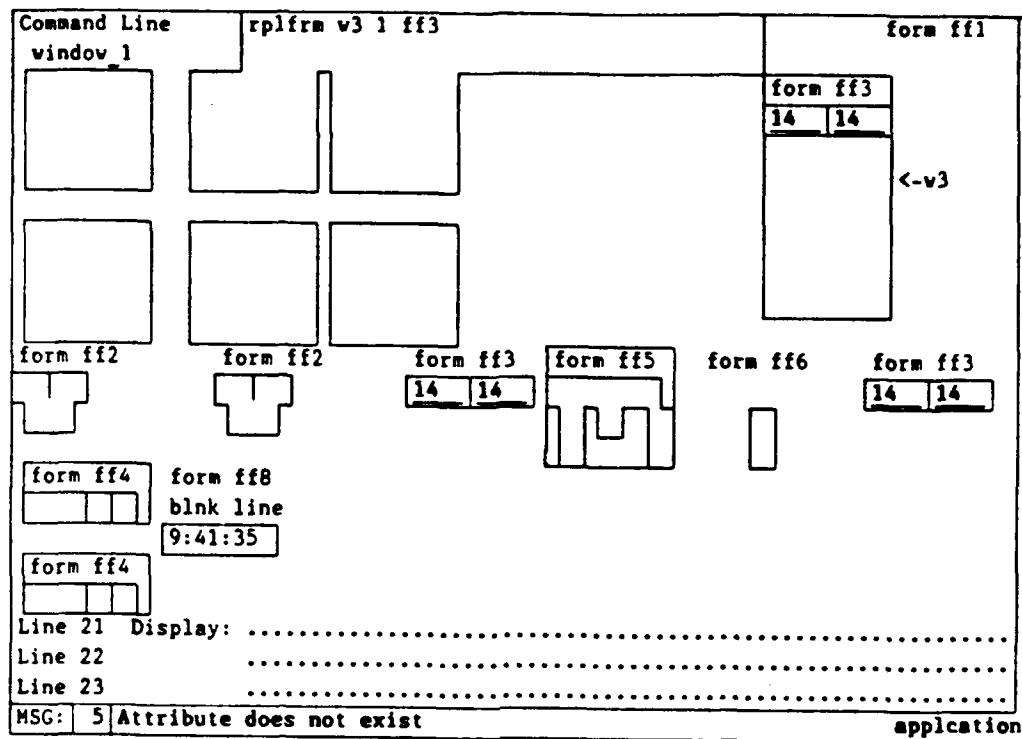


Figure 5-106 RMV DIM Test Preparation

Add the form ff3 to window w3.

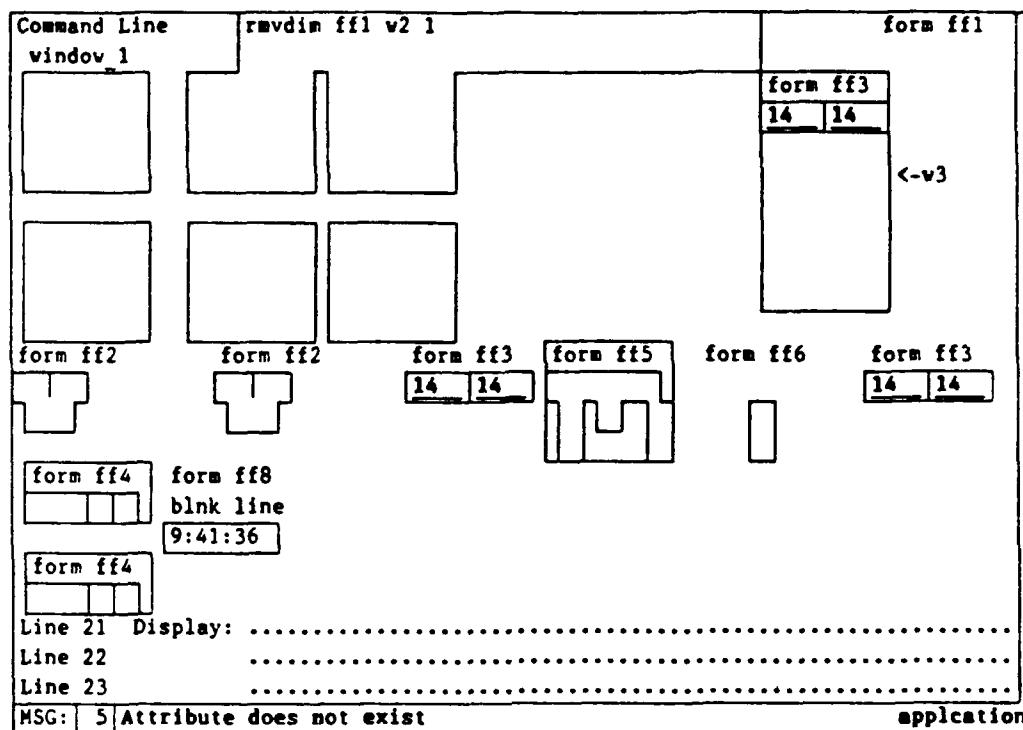


Figure 5-107a RMVDIM Test Case

The first repeat specification for the window field w2 on the form ff1 is removed.

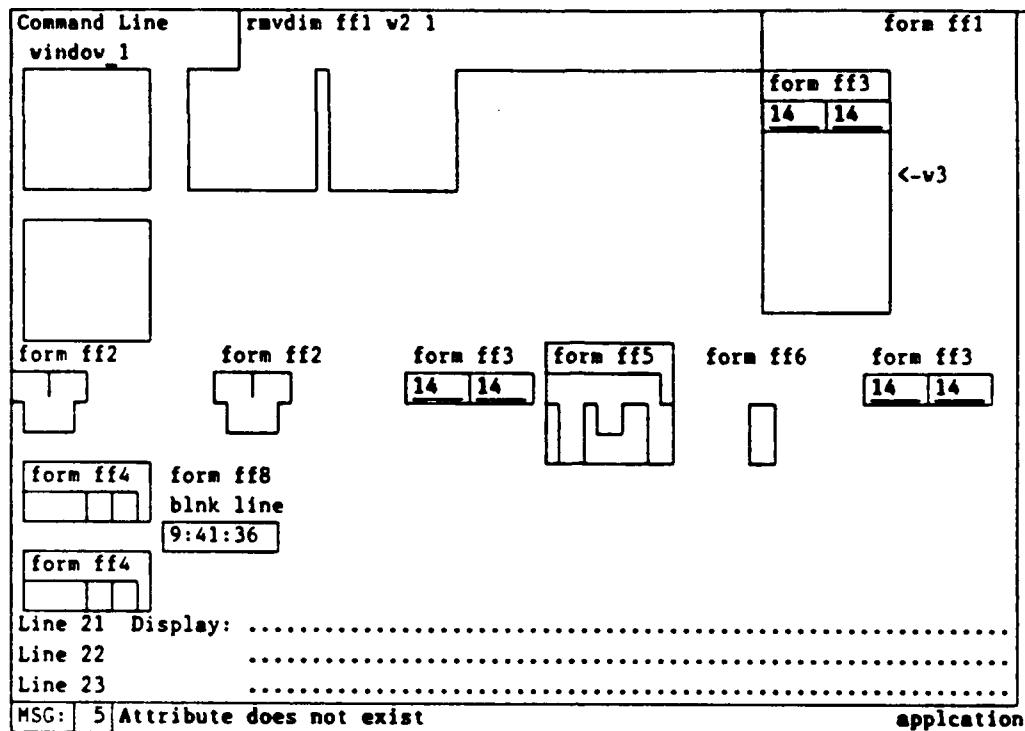


Figure 5-107b Test Result

Only the second repeat specification, horizontal repetition, remains for the field w2.

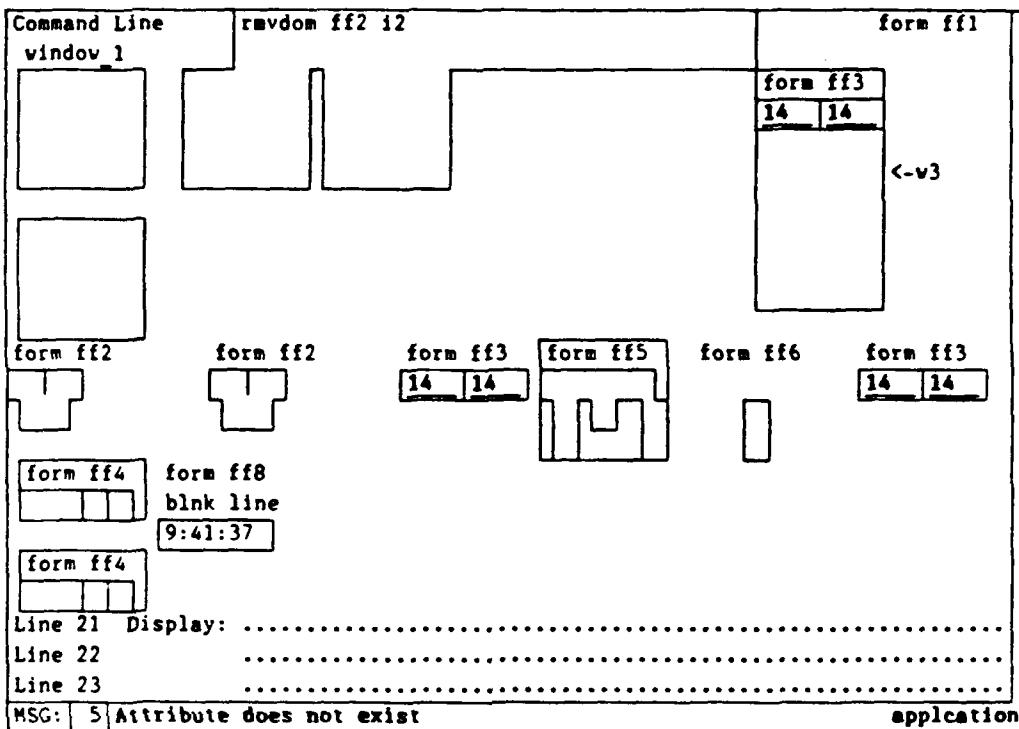


Figure 5-108a RMVDOM Test Case

Remove the domain clause defined for the item field i2 on the form ff2. The INQDOM test in Figure 5-95, show that the domain options for this field are defined as NUMERIC, MINIMUM 1, MAXIMUM 6.

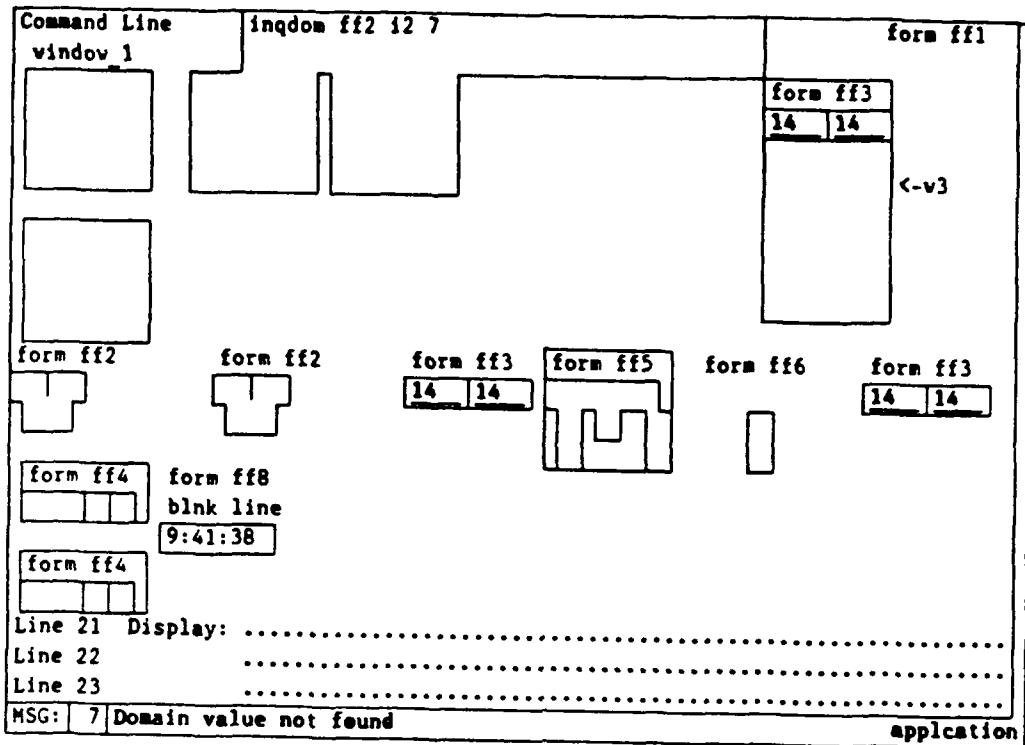


Figure 5-108b Verify Test Result

Inquire what the domain clause defined for the item field i1 on the form ff2 is after having deleted it. The message "Value Clause Not Found" is issued verifying that the DOMAIN clause has indeed been dropped.

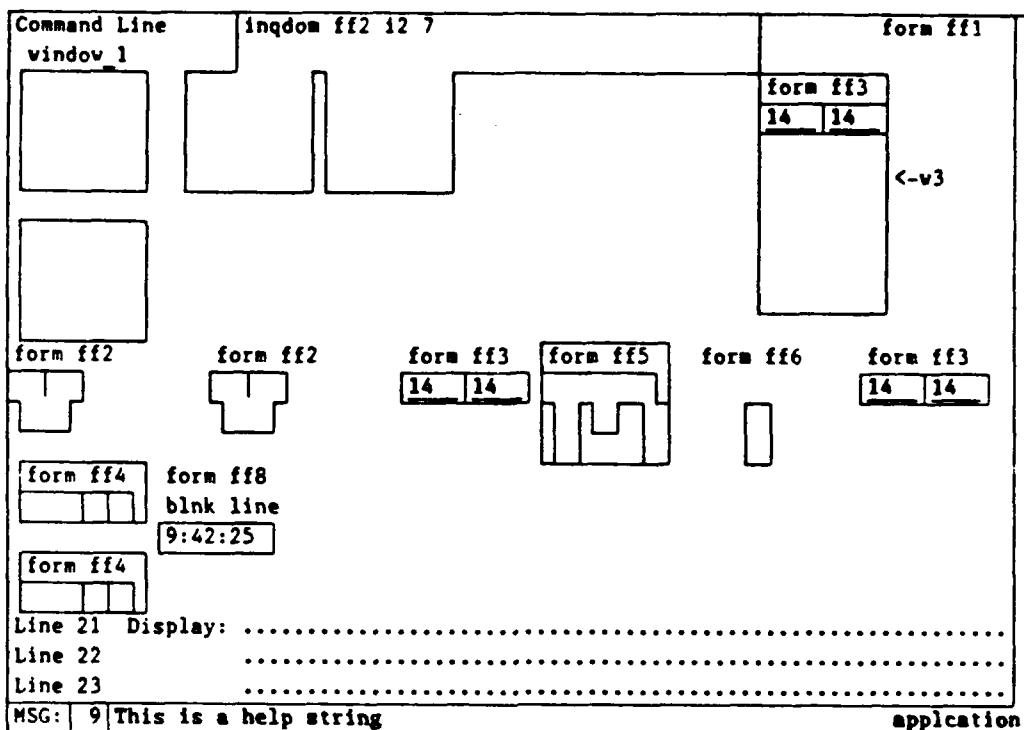


Figure 5-109 RMVHLP Test Preparation

Position the cursor in the item field **il** on the form **ff4** and press the **<HELP>** key to obtain the help associated with the field. The "help" is a text string "This is a help string". Press the **<ENTER>** key to continue.

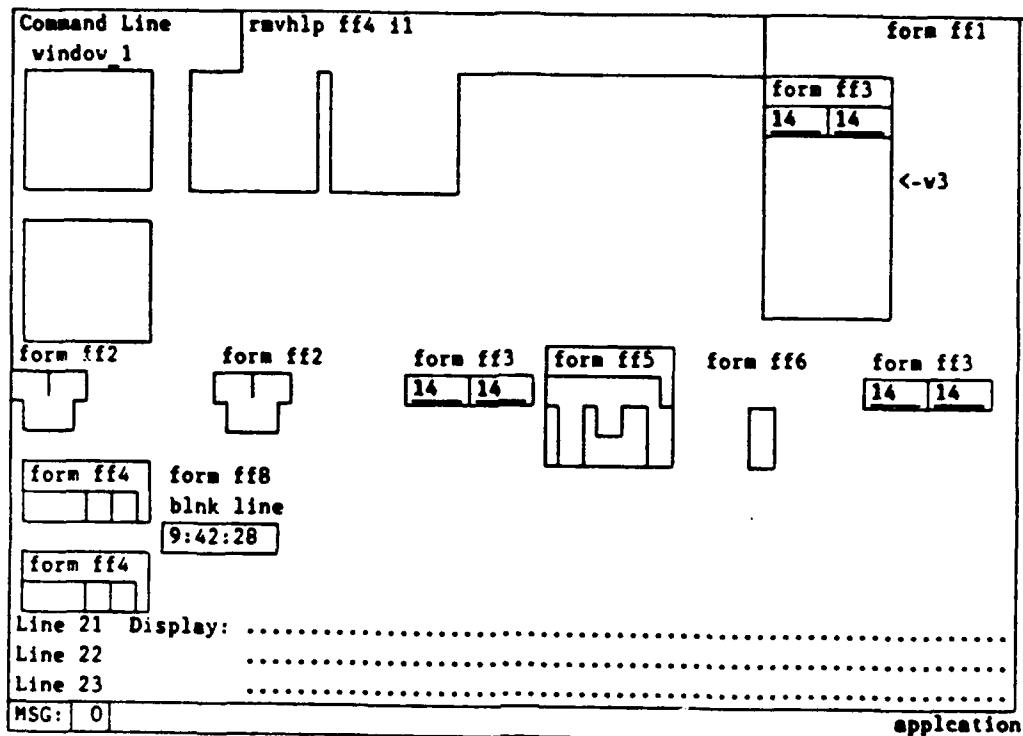


Figure 5-110a RMVHLP Test Case

Remove the help information defined for the item field i1 on the form ff4.

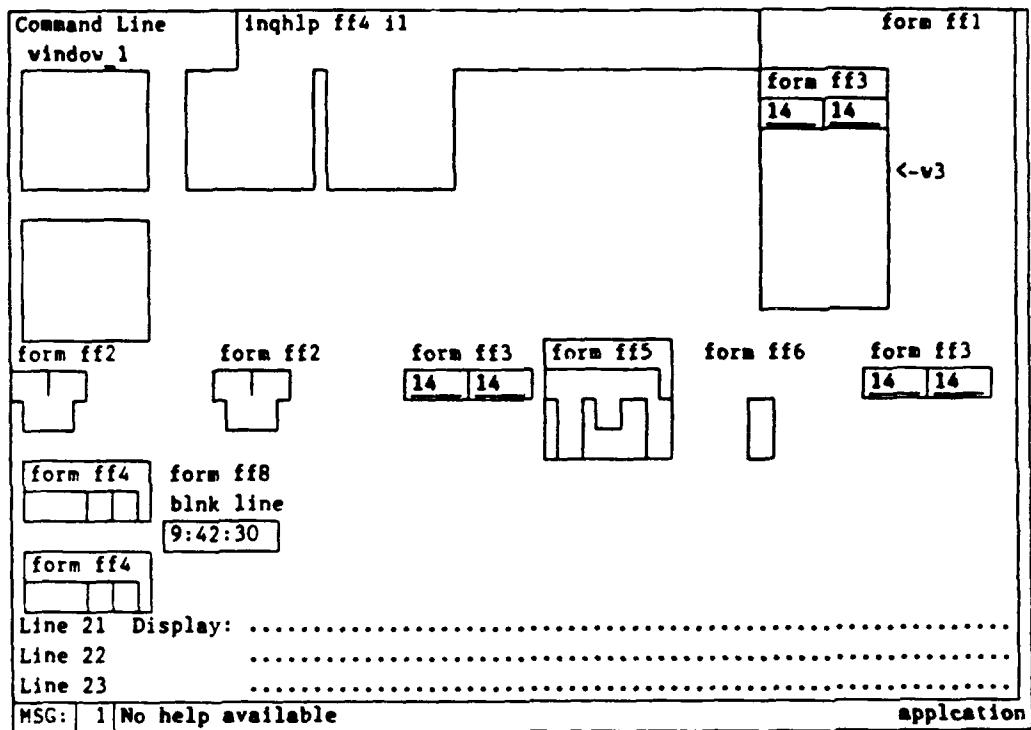


Figure 5-110b Verify Test Result

Inquire what help is defined for the item field i1 on ff4 using INQHLP. The message "No help available" verifies that the help has been deleted.

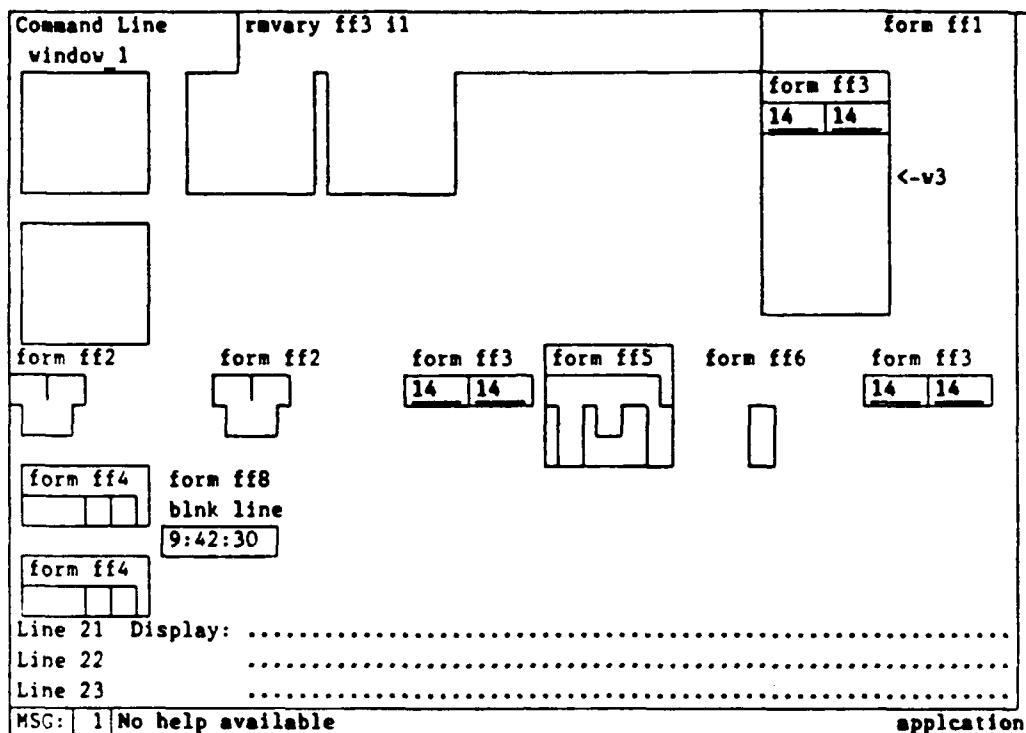


Figure 5-111a RMVARY Test Case

Remove the entire repeat specification for the item field il on the form ff3.

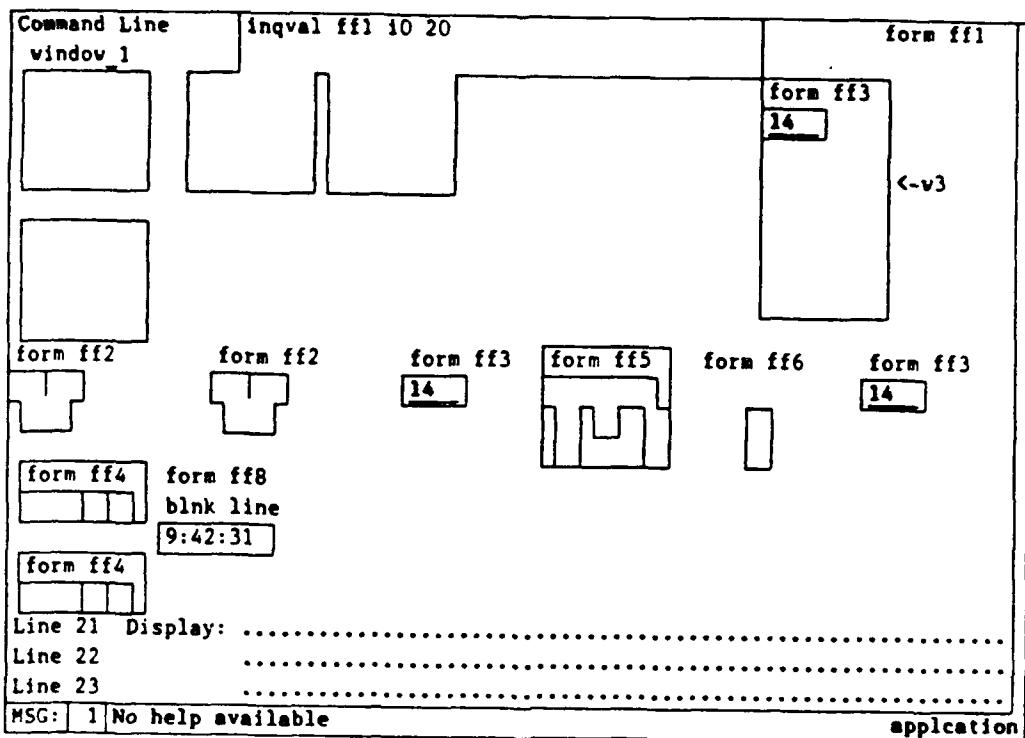


Figure 5-111b Test Case Result

Only one occurrence of the item field i1 is now displayed on the form ff3.

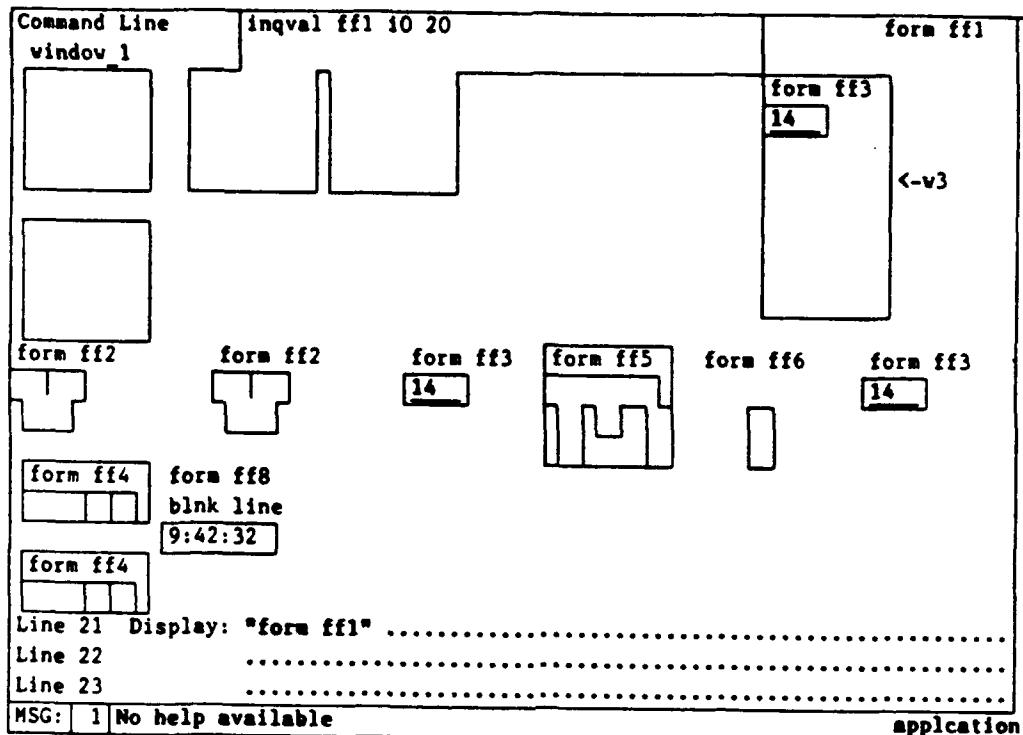


Figure 5-112 RMVVAL Test Preparation

Use INQVAL to first obtain the VALUE clause defined for the item field i0 on the form ff1. It is defined as the string "form ff1".

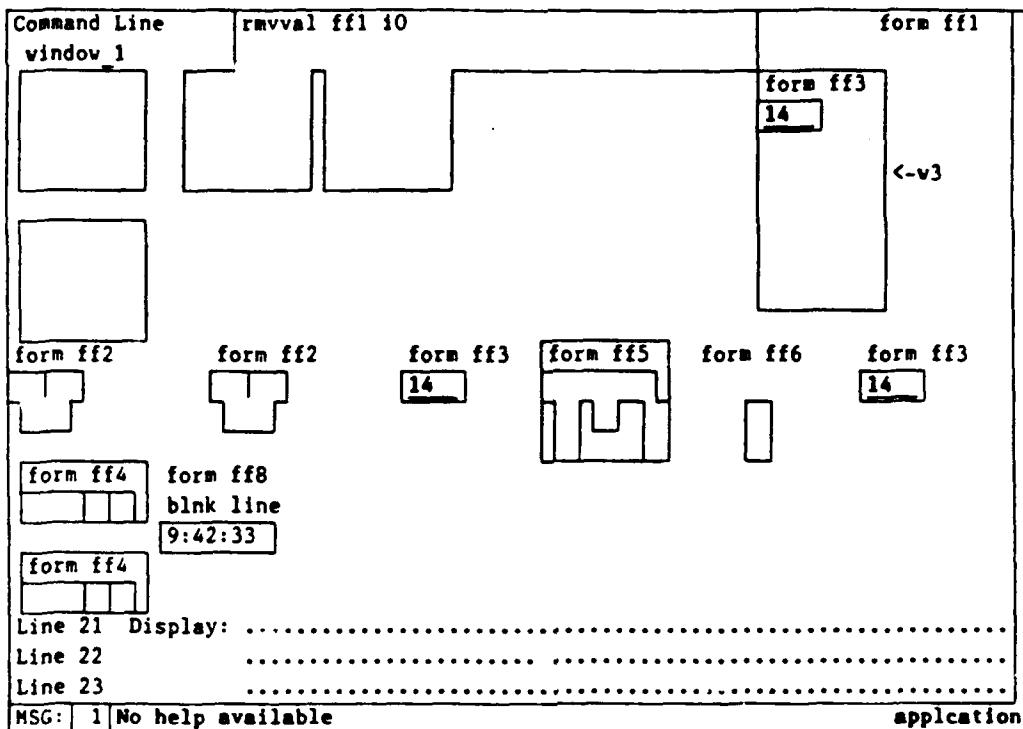


Figure 5-113a RMVVAL Test Case

Remove the VALUE clause defined for the item field i0 on the form ff1.

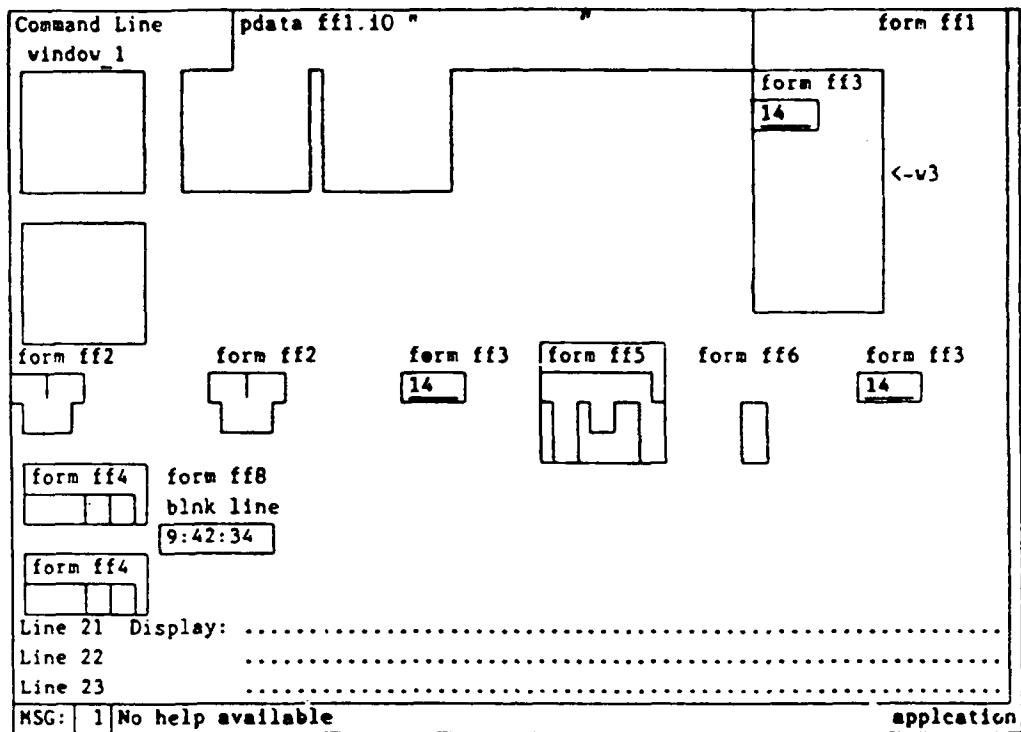


Figure 5-113b Verify Test Case

The value of the item field still displays as "form ff1" because no new data have been assigned to it. Use PDATA to assign blanks to i0.

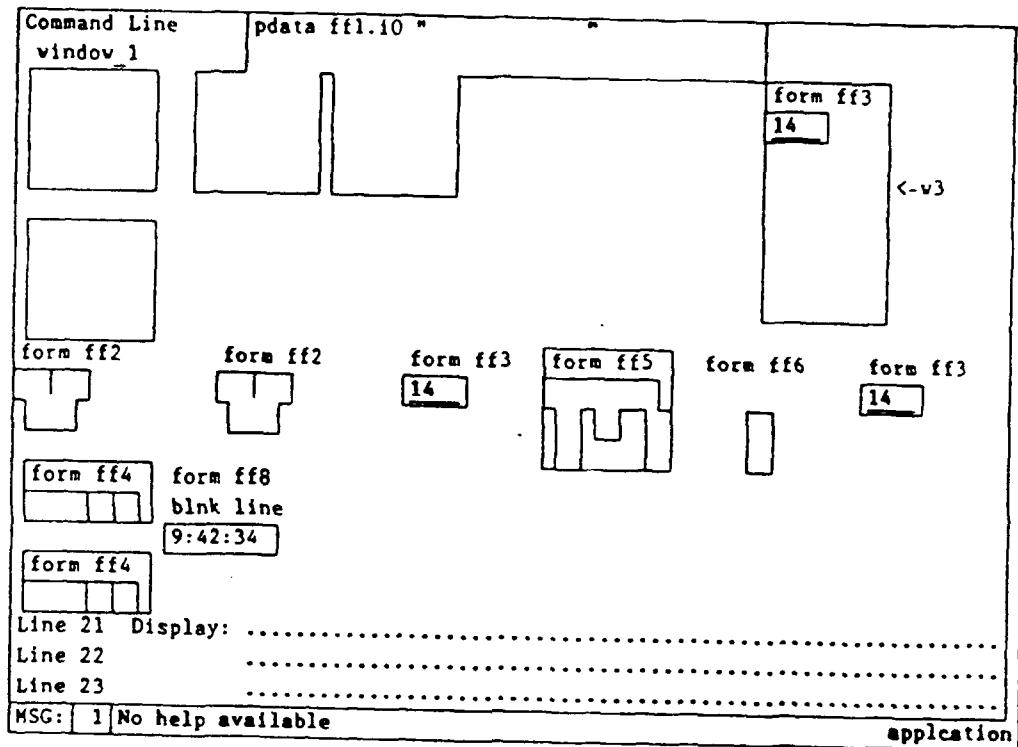


Figure 5-113c Test Case Result

The "form ff1" value in field i0 is now gone.

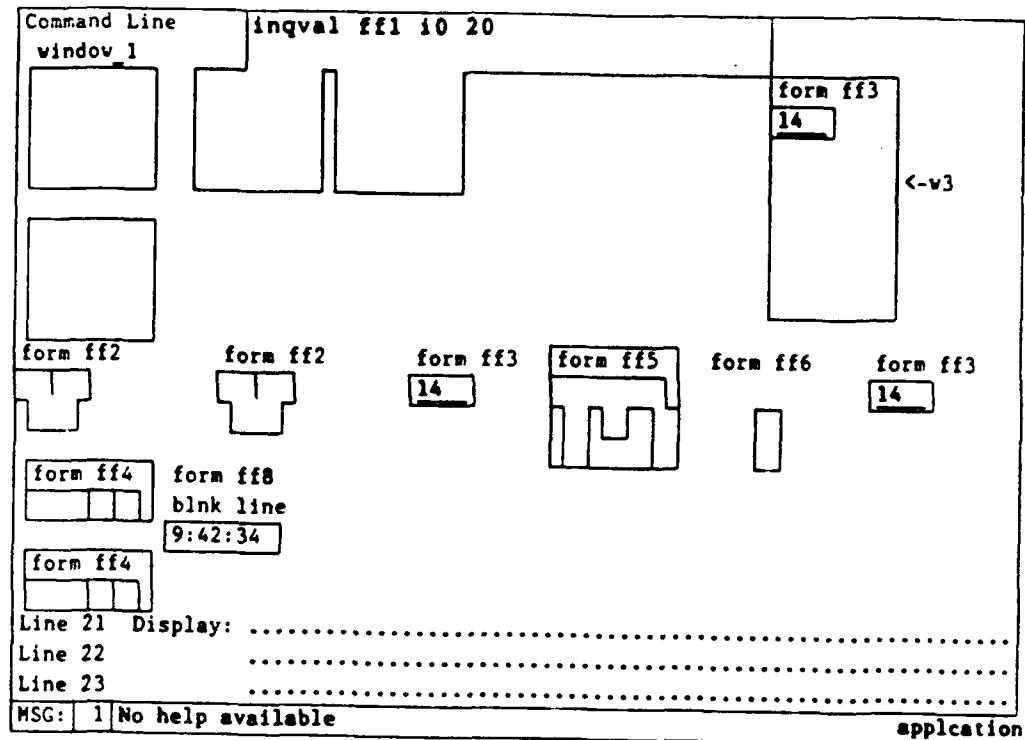


Figure 5-113d Another RMVVAL Verification

Use INQVAL to verify that the VALUE clause has been removed. This is shown by the error message "Value Clause Not Found".

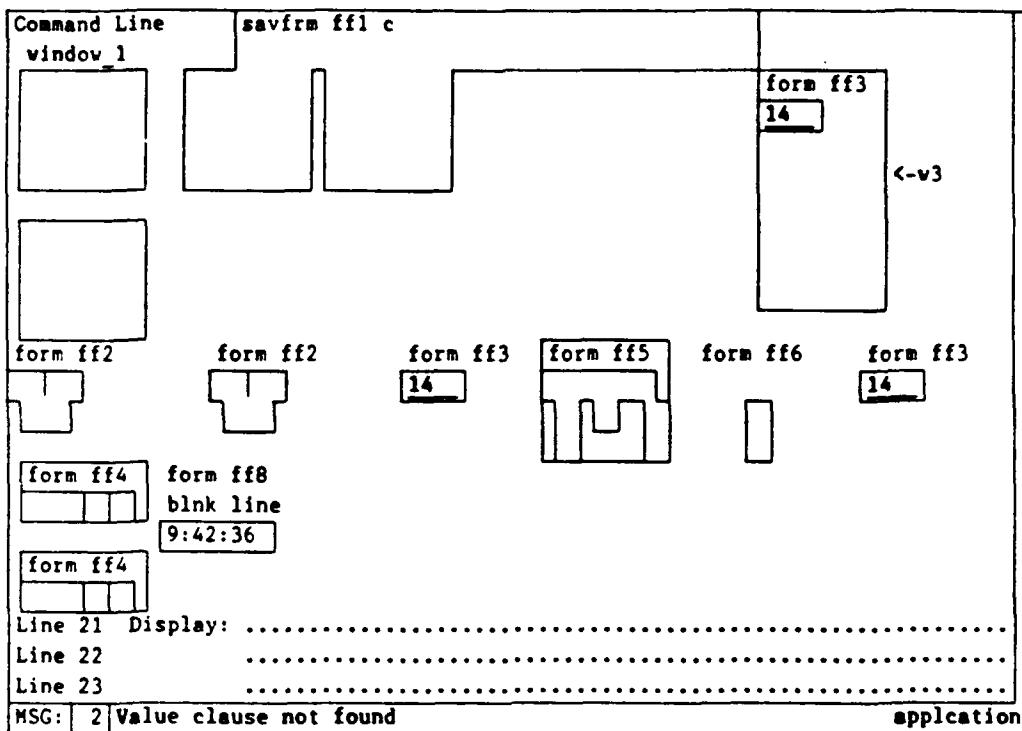


Figure 5-114a SAVFRM Test Case 1

The definition of the form ff1 is to be compiled and written out in compiled (FD) form.

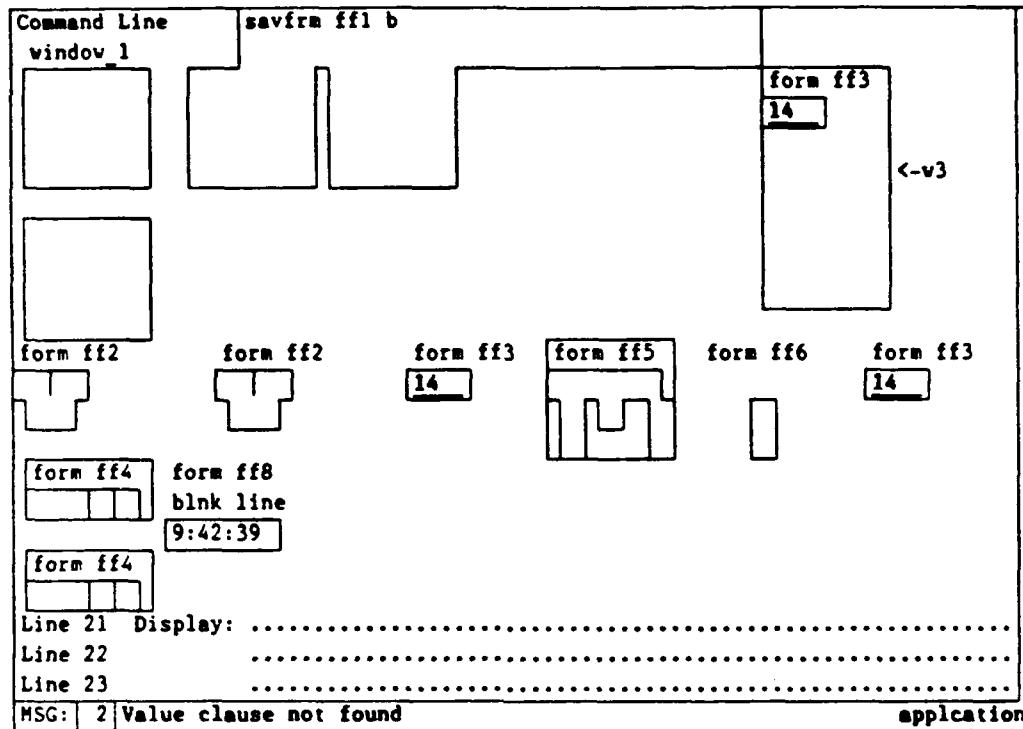


Figure 5-114b SAVFRM Test Case 2

The definition of the form ff1 is to be compiled and written out in both compiled (FD) form and in source (FDL) form.

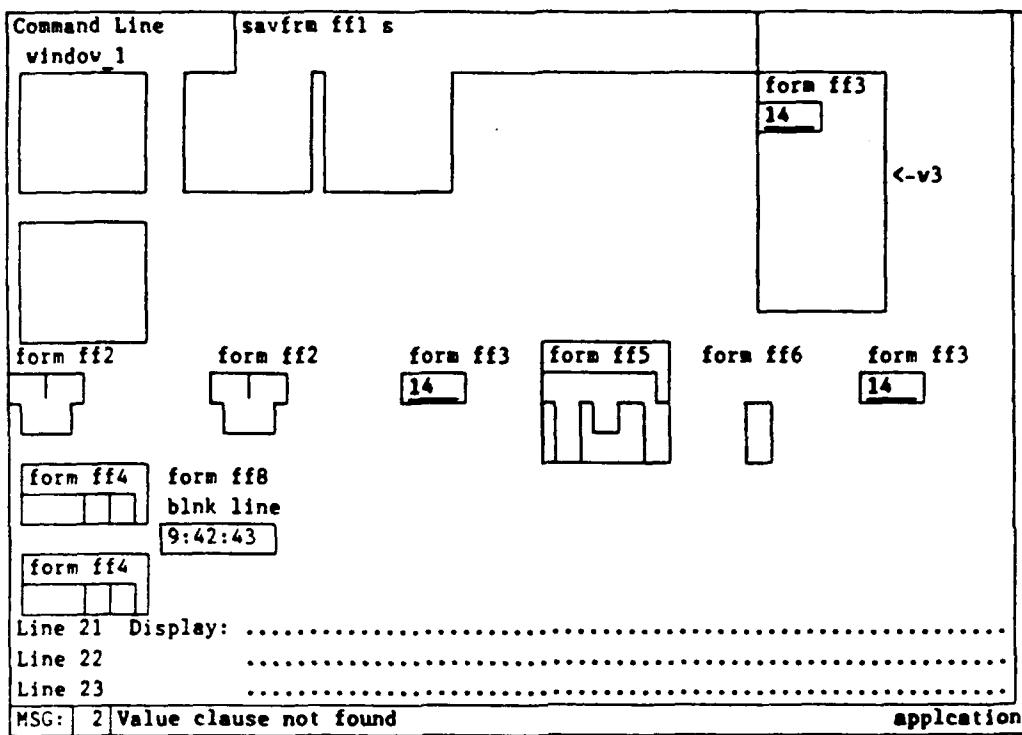


Figure 5-114c SAVFRM Test Case 3

The definition of the form ff1 is to be written out in source (FDL) form.

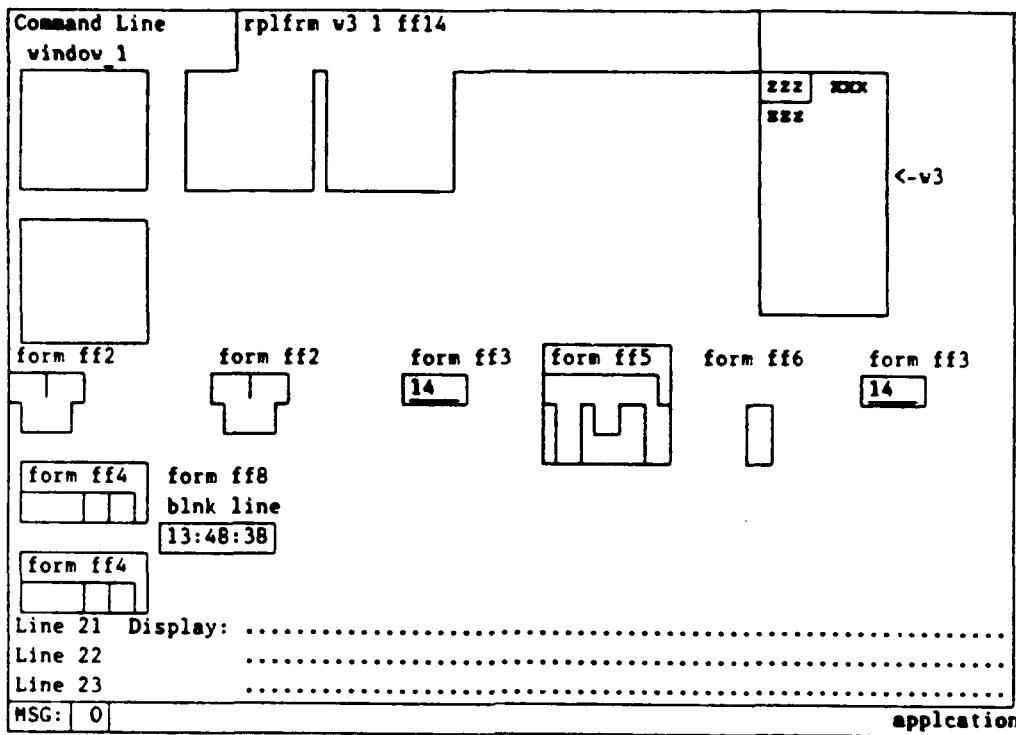


Figure 5-115 APRFLD Test Preparation

Use RPLFRM to display form ff14 in window w3. This form contains three item fields. I2 is an output field whose value is defined to be i1 and i3 is displayed depending on the value of its APPEARS IF clause.

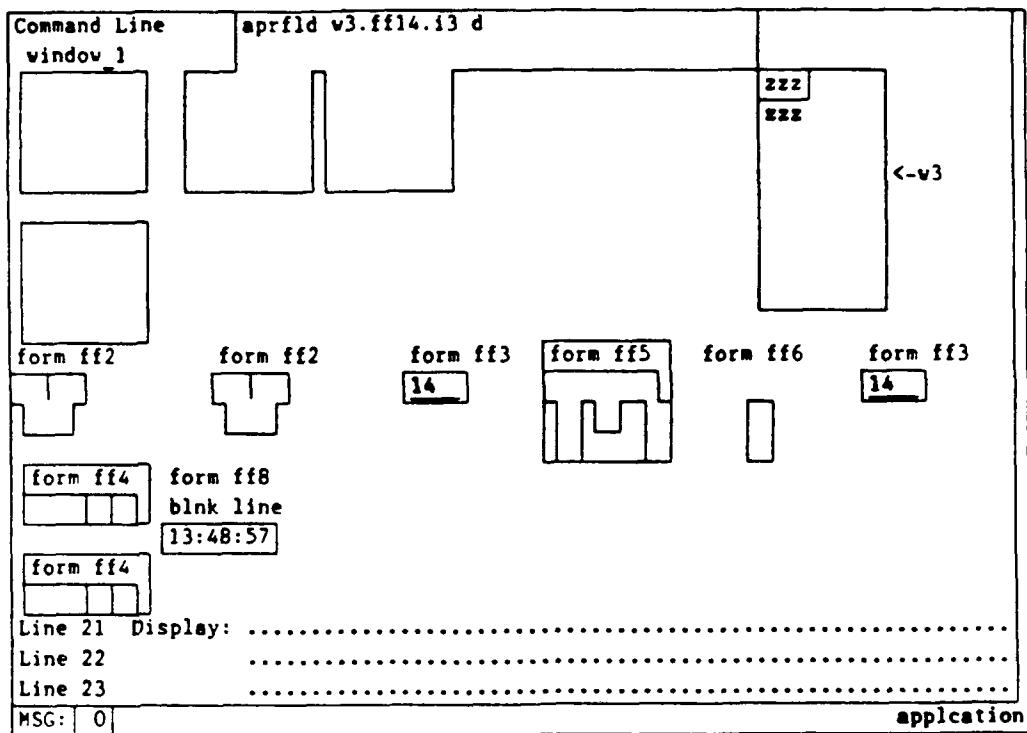


Figure 5-116a APRFLD Test Case 1 with Result

Set the display flag to nondisplay. Item i3 does not appear on the screen.

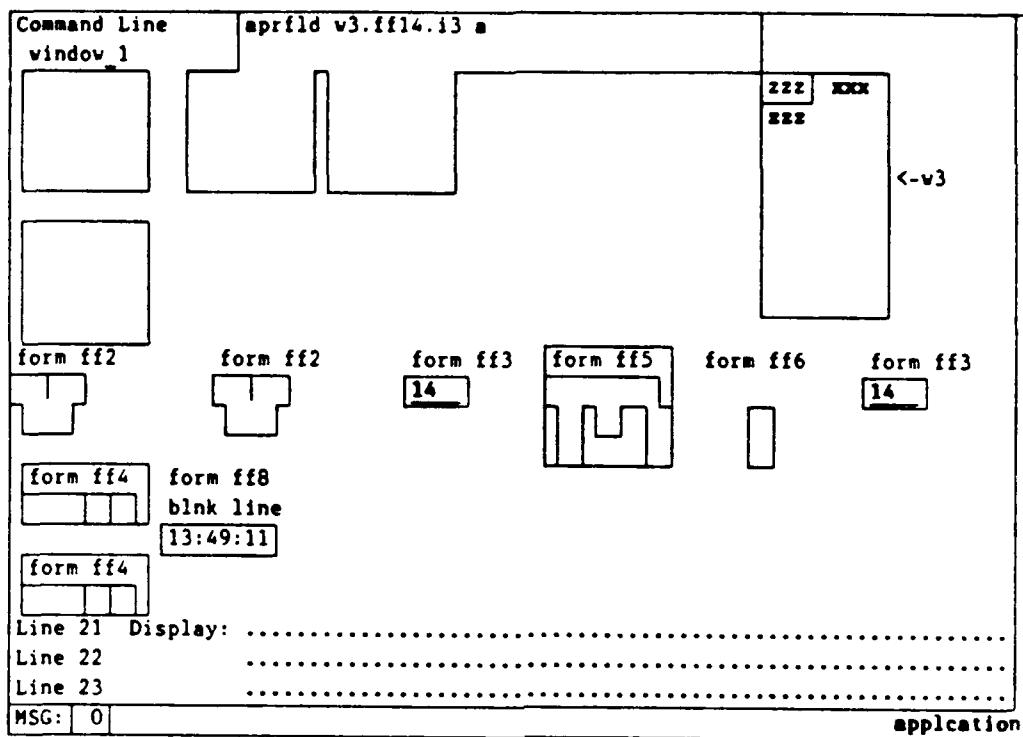


Figure 5-116b APRFLD Test Case 2 with Result

Set the display flag to display. Item i3 appears on the screen.

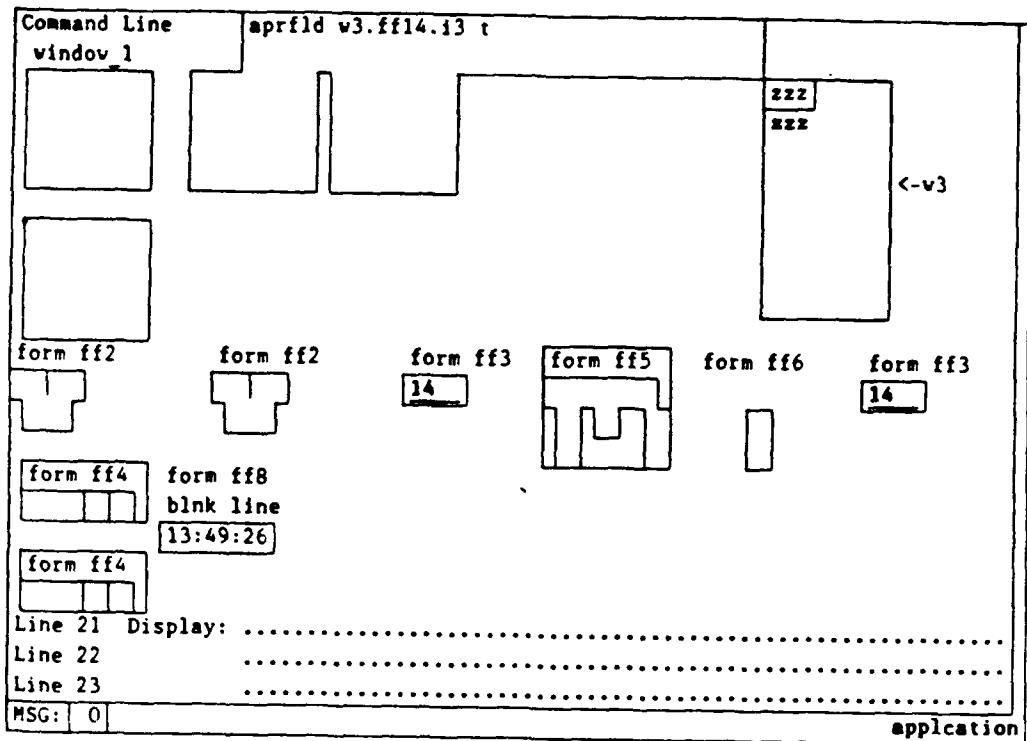


Figure 5-116c APRFLD Test Case 3 with Result

Toggle the display flag. Item i3 does not appear on the screen.

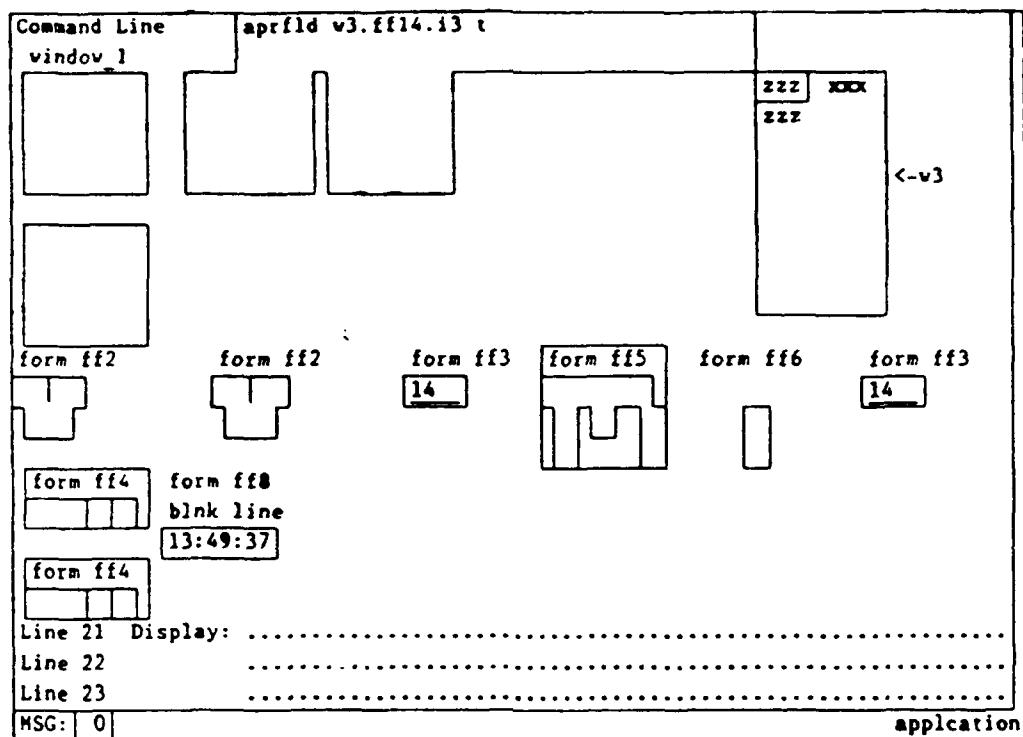


Figure 5-116d APRFLD Test Case 4 with Result

Toggle the display flag. Item i3 appears on the screen.

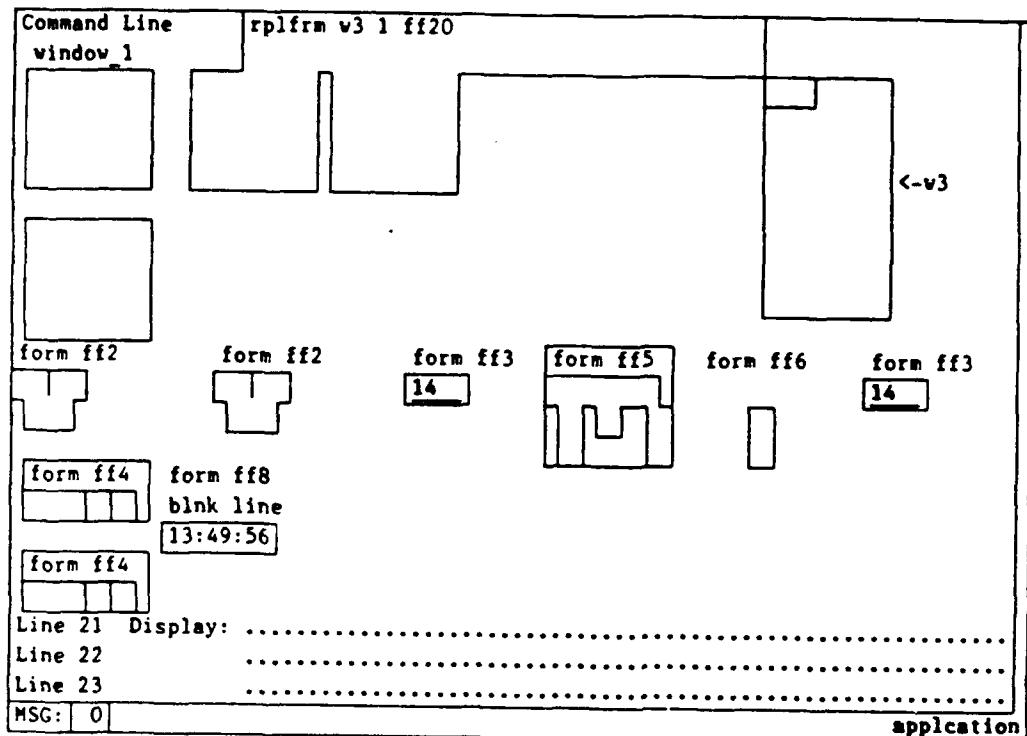


Figure 5-117 INQAPR Test Preparation

Use RPLFRM to display the form ff20 in window w3. Item i3 does not appear.

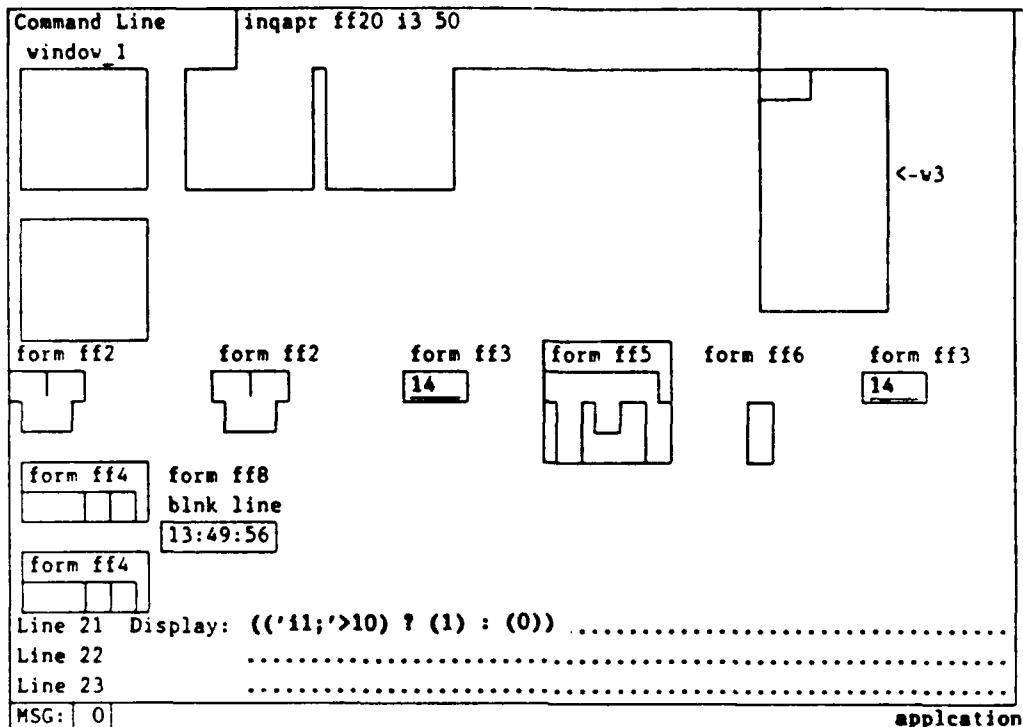


Figure 5-118 INQAPR Test Case 1 with Result

Find out what the current appears if criterion defined for item i3 is. It appears if the value of i1 is greater than 10.

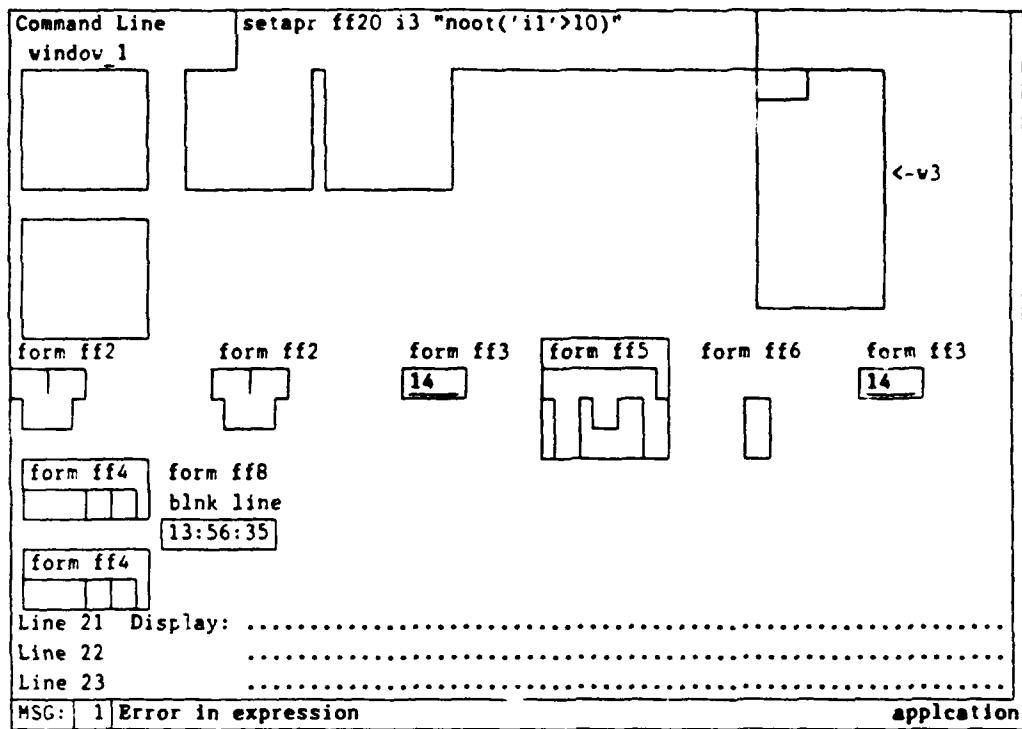


Figure 5-119 SETAPR Error Test

Enter an invalid expression for the appears if criterion. The message "Error in expression" is displayed.

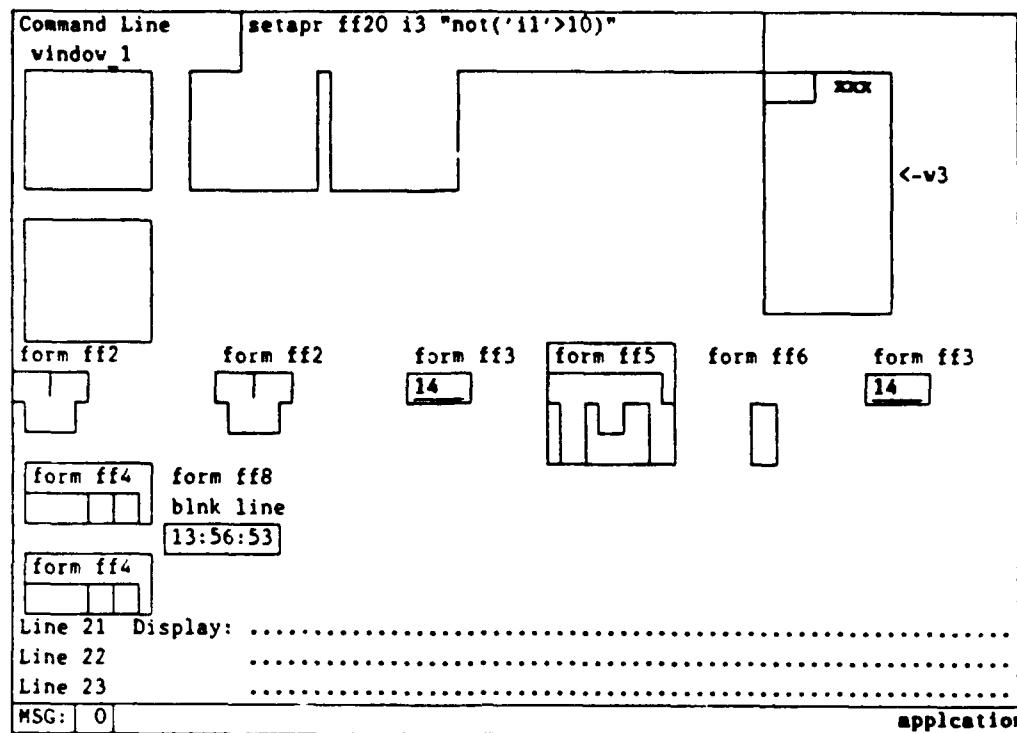


Figure 5-120 SETAPR Test Case with Result

Define the appears if criterion for item i3 to be not i1 greater than 10. Since the value of i1 is blank, i3 appears.

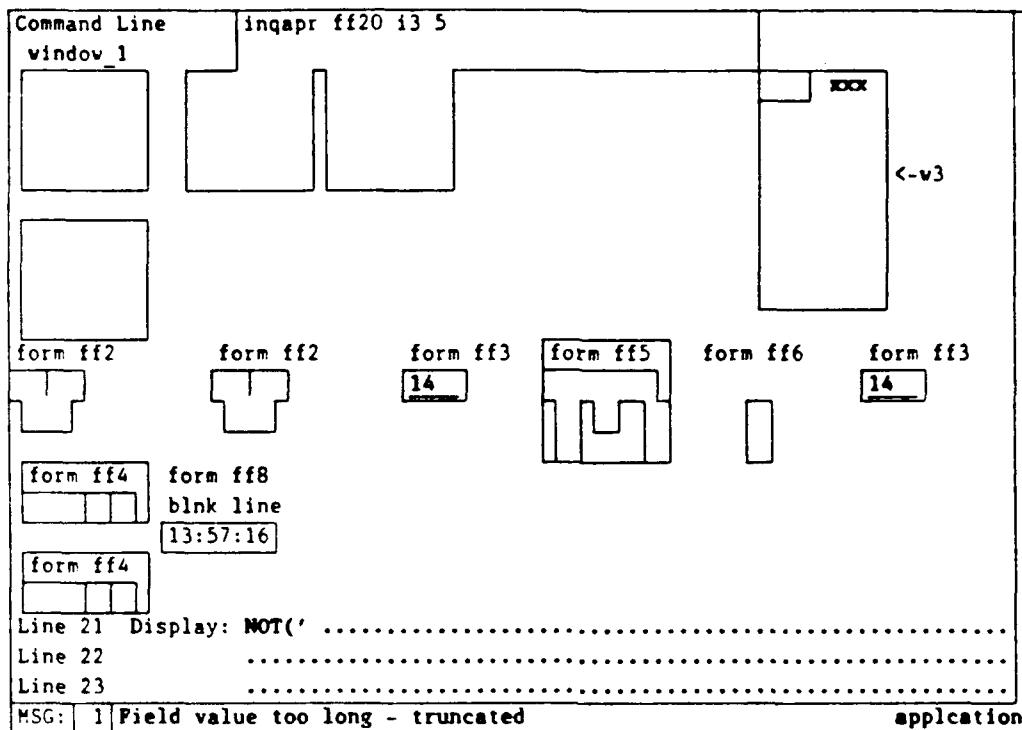


Figure 5-121 INQAPR Test Case 2 with Result

Use INQAPR to verify the appears if criterion defined for i3. The message "Field value too long - truncated" is displayed because a buffer size of 5 is not long for the expression.

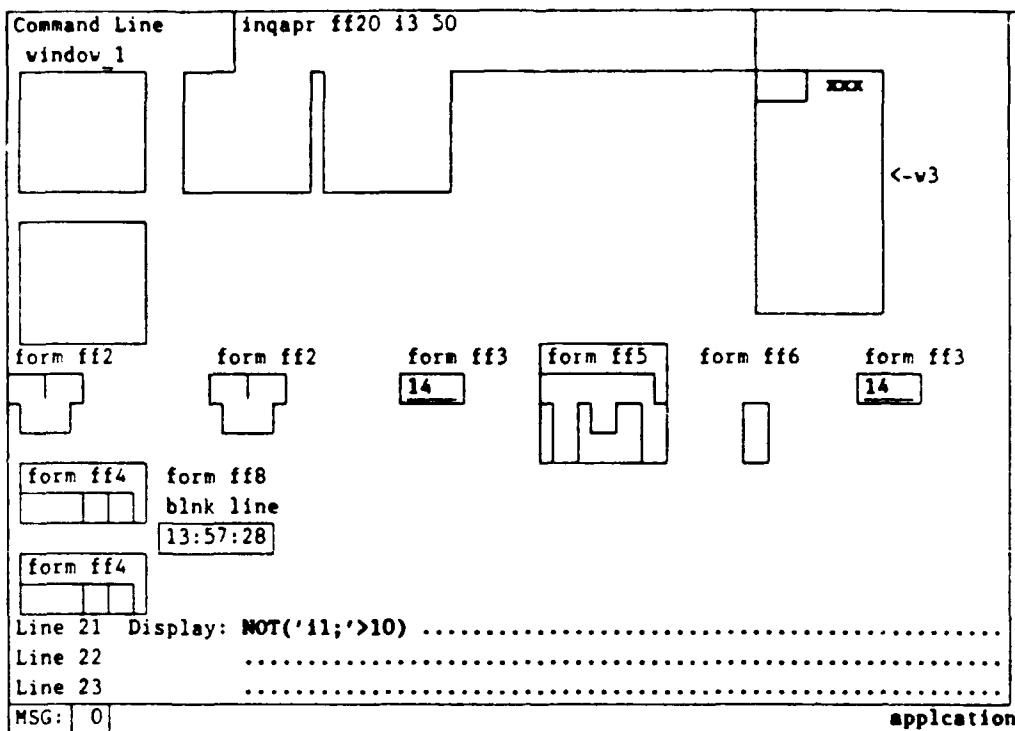


Figure 5-122 INQAPR Test Case 3 with Result

Use INQAPR again with a larger buffer size. The criterion defined previously using SETAPR is returned.

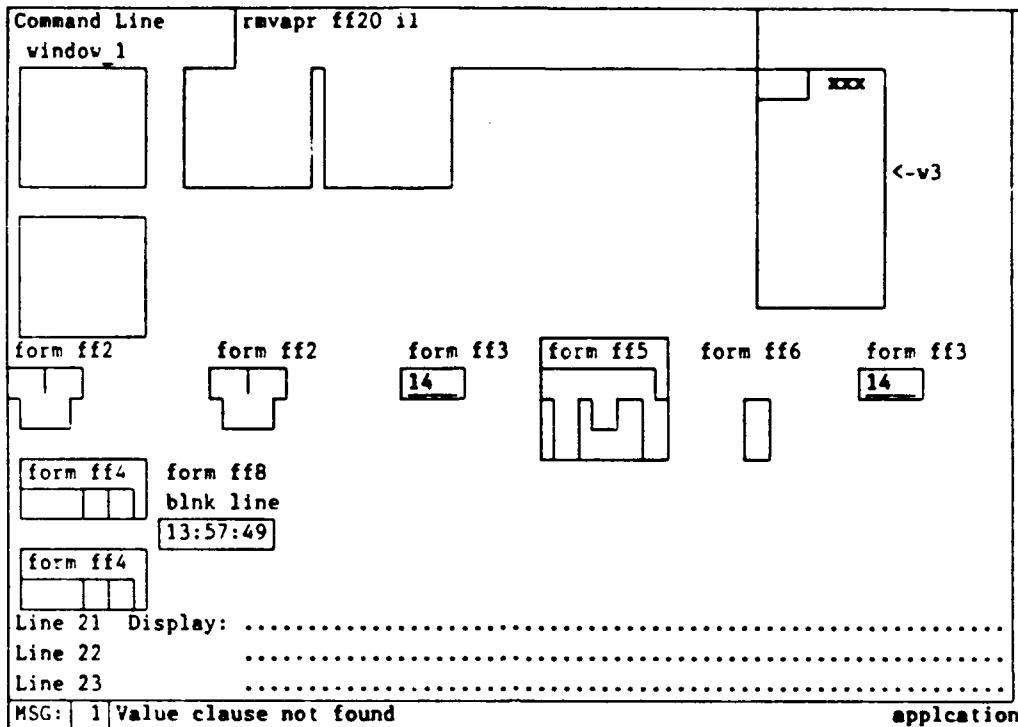


Figure 5-123 RMVAPR Test Case 1 with Result

Use RMVAPR to delete the appears if criterion defined for an item field. In this case, il does not have any criterion defined. The message "Value clause not found" is displayed.

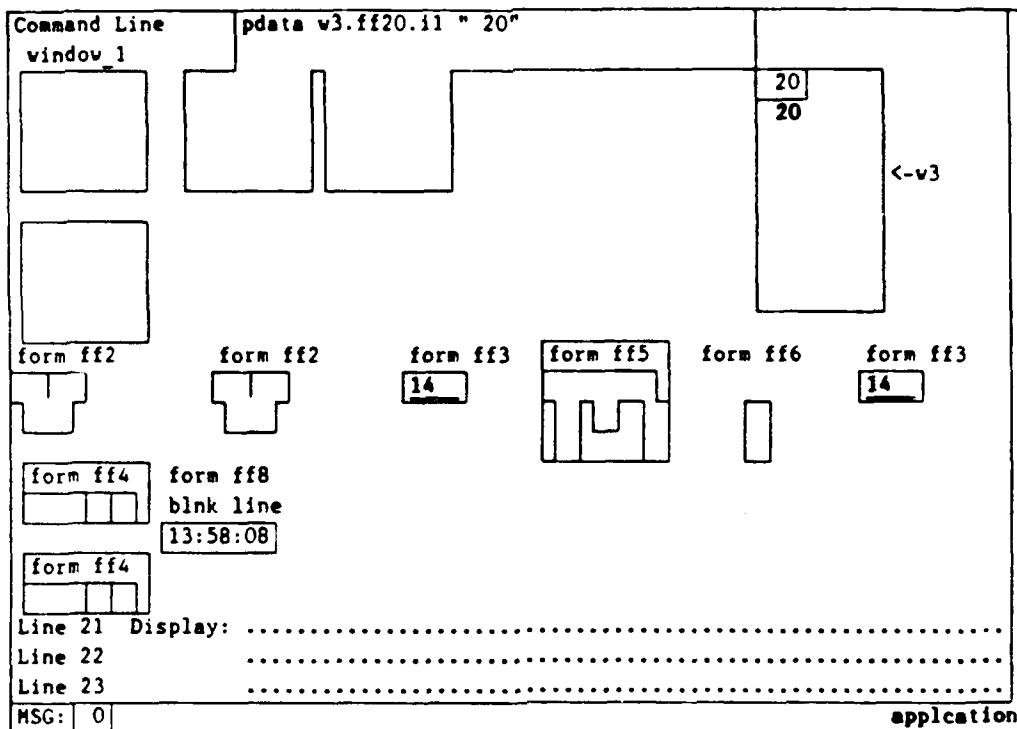


Figure 5-124 RMVAPR Test Preparation

Use PDATA to enter the value "20 " in i1 so that i3 disappears.

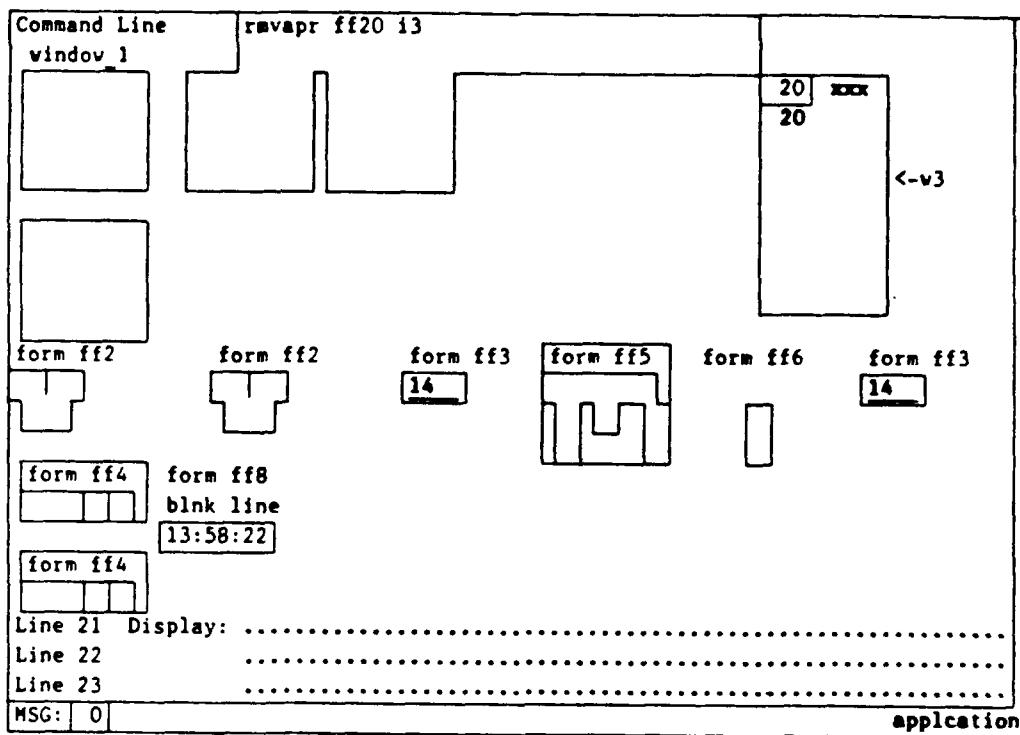


Figure 5-125 RMVAPR Test Case 2 with Result

Remove the appears if criterion defined for the item i3. The field appears.

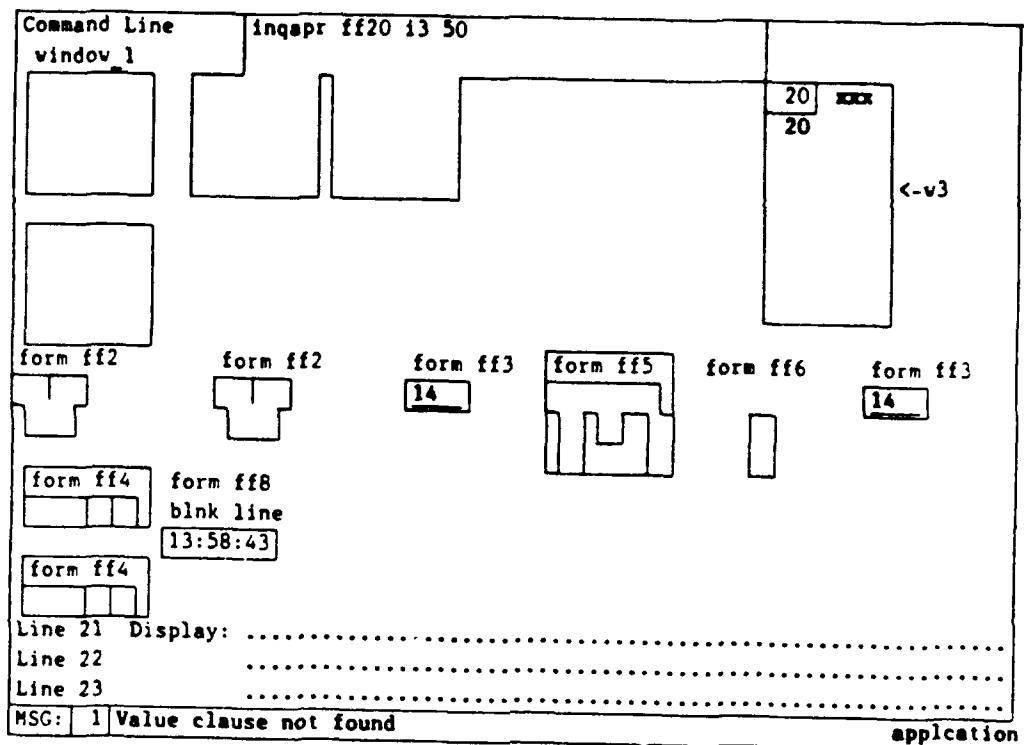


Figure 5-126 RMVAPR Test Verification

Use INQAPR to verify that the appears if criterion for i3 was removed. The message "Value clause not found" is displayed. Press <QUIT> to return to the IISS Function Screen and then press <QUIT> again to complete this Unit Test.

APPENDIX A
VT100 KEYPAD LAYOUTS

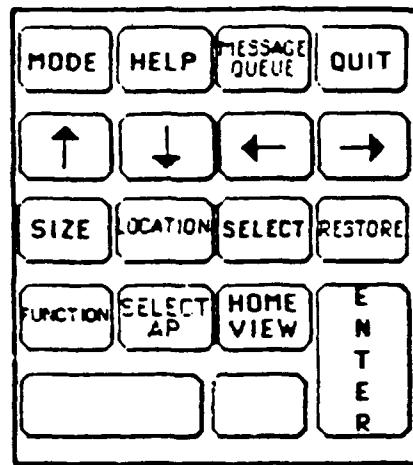


Figure A-1 Window Manager Mode

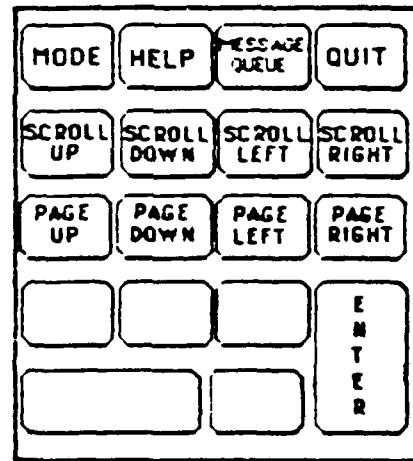


Figure A-2 Scroll/Page Mode

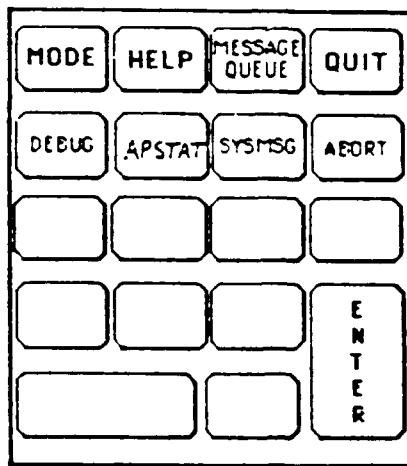


Figure A-3 Status Mode

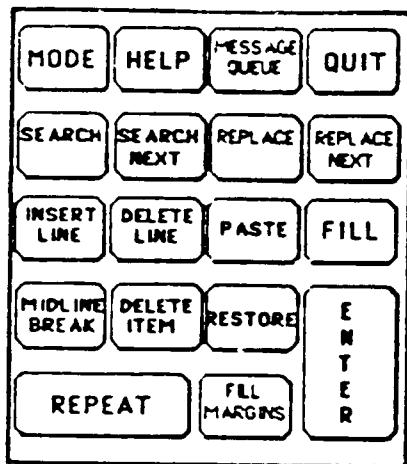


Figure A-4 Text Editor Mode

APPENDIX B

FP TEST FORMS

```
/* these forms are for testing form processor */
```

```
CREATE FORM ARTESTP  
prompt center at 1 40 "ARTEST Parameters"
```

```
item parm1  
at 3 10  
size 10  
display as input  
prompt at left "parm1"
```

```
item parm2  
at 5 10  
size 10  
display as input  
prompt at left "parm2"
```

```
item parm3  
at 7 10  
size 10  
display as input  
prompt at left "parm3"
```

```
item parm4  
at 9 10  
size 10  
display as input  
prompt at left "parm4"
```

```
CREATE FORM ff1
```

```
ATTRIBUTE blackfg (background white, display black)  
ATTRIBUTE redfg (background white, display red)  
ATTRIBUTE greenfg (background black, display green)  
ATTRIBUTE yellowfg (background black, display yellow)  
ATTRIBUTE bluefg (background white, display blue)  
ATTRIBUTE magentafg (background white, display magenta)  
ATTRIBUTE cyanfg (background black, display cyan)  
ATTRIBUTE whitefg (background black, display white)  
BACKGROUND blue  
PROMPT AT 1 2 "Command Line"  
PROMPT AT 21 2 "Line 21"  
PROMPT AT 22 2 "Line 22"
```

PROMPT AT 23 2 "Line 23"
PROMPT AT 24 2 "Line 24"
PROMPT AT 25 2 "Line 25"
PROMPT AT 26 2 "Line 26"
PROMPT AT 27 2 "Line 27"
PROMPT AT 28 2 "Line 28"
PROMPT AT 29 2 "Line 29"
PROMPT AT 30 2 "Line 30"
PROMPT AT 31 2 "Line 31"
PROMPT AT 32 2 "Line 32"
PROMPT AT 33 2 "Line 33"
PROMPT AT 34 2 "Line 34"
PROMPT AT 35 2 "Line 35"
PROMPT AT 36 2 "Line 36"
PROMPT AT 37 2 "Line 37"
PROMPT AT 38 2 "Line 38"
PROMPT AT 39 2 "Line 39"
PROMPT AT 40 2 "Line 40"
PROMPT AT 41 2 "Line 41"
PROMPT AT 42 2 "Line 42"
PROMPT AT 43 2 "Line 43"
PROMPT AT 44 2 "Line 44"
PROMPT AT 45 2 "Line 45"
PROMPT AT 46 2 "Line 46"
PROMPT AT 47 2 "Line 47"
PROMPT AT 48 2 "Line 48"
PROMPT AT 49 2 "Line 49"
PROMPT AT 50 2 "Line 50"
PROMPT AT 51 2 "Line 51"
PROMPT AT 52 2 "Line 52"
PROMPT AT 53 2 "Line 53"
PROMPT AT 54 2 "Line 54"
PROMPT AT 55 2 "Line 55"
PROMPT AT 56 2 "Line 56"
PROMPT AT 57 2 "Line 57"
PROMPT AT 58 2 "Line 58"
PROMPT AT 59 2 "Line 59"
PROMPT AT 60 2 "Line 60"
PROMPT AT 61 2 "Line 61"
PROMPT AT 62 2 "Line 62"
PROMPT AT 63 2 "Line 63"
PROMPT AT 64 2 "Line 64"
PROMPT AT 65 2 "Line 65"
PROMPT AT 66 2 "Line 66"
PROMPT AT 67 2 "Line 67"
PROMPT AT 68 2 "Line 68"
PROMPT AT 69 2 "Line 69"

```
item i0
at 1 70
size 8
display as text
value "form ff1"

item i3
at 21 11
size 8
display as text
value "Display:"

item i4
at 1 20
size 40 by 2
display as input
help pathcom

WINDOW w1 (2 v 1)
AT 3 2
SIZE 10 BY 4
background white
appears if 'ff1.ff6.il' < "11111"

WINDOW w2(2 v 1, 2 H 1)
AT 3 15
SIZE 10 BY 4
background xparnt

WINDOW wnf
at 3 45
size * by *
background green

WINDOW w3
at 3 60
size 10 by 8
background yellow

form ff2 (2 h 4)
at 12 1
size 12 by 4

form ff3
at 12 32
size 10 by 4
```

```
form ff4 (2 v 1)
at 16 2
size 10 by 2

form ff5
at 12 43
size 10 by 4

form ff6
at 12 55
size 10 by 4

form ff7
at 12 68
size 10 by 4

form ff8
at 16 13
size 10 by 4

item fqn
at 21 20
size 60 by 3
display as output

CREATE FORM ff2
prompt at 1 2 "form ff2"

item i1(2 h 1)
at 2 2
size 2
display as input

item i2
at 3 2
size 3
domain (NUMERIC MAXIMUM 6 MINIMUM 1)
display as input

create form ff3
prompt at 1 2 "form ff3"

item i1(2 v 1, 2 h 1)
at 2 2
size 3
display as input
```

```
create form ff4
background black
prompt at 1 2 "form ff4"

item i1
at 2 2
size 4
display as input
help "This is a help string"

create form ff5
background white
prompt at 1 2 "form ff5"

item i1
at 3 3
size 1 by 2
display as input
help application

create form ff6
background xparnt
prompt at 1 2 "form ff6"

item i1
at 3 6
size 1 by 4
display as input

create form ff7
prompt at 1 2 "form ff7"

item i1(3/6 v 0, 2/4 h 1)
at 2 2
size 1
display as input

create form ff8
prompt at 1 2 "form ff8"

item i1
at 3 2
size 8
display as input

create form ff9
```

```
prompt at 1 2 "form ff9"

item i1
at 2 2
size 8
display as input

window w4
at 3 1
size 10 by 5
display as black

create form ff10
size 10 by 8
prompt at 1 2 "Form ff10"

item i1 (* v)
at 2 2
size 4
display as input

create form ff11
size 10 by 8
prompt at 1 2 "Form ff11"

item i1 (4/ * v)
at 2 2
size 4
display as input

create form pathcom

item i4
at 3 47
size 1
display as input
help morhelp

prompt at 1 30 "Commands for ARTEST"
prompt at 3 30 " More Commands:"
prompt at 5 10
"-----"

prompt at 6 9 "add form to a window          addfrm window
form"
prompt at 7 9 "delete pages from window      rmvpag window
page"
```

```
prompt at 8 9 "replace page in window          rplfrm window page
form"
prompt at 9 9 "close form                      clsfrm form"

prompt at 10 9 "put data to form item array      pdata path data"
prompt at 11 9 "get data from form item array     gdata
inst(0=prev,1=cur) path"

prompt at 12 9 "change attributes: background    putbak path
dur(prm=0,tmp=1) attrib"
prompt at 13 9 "get attributes: background      getbak path
dur(prm=0,tmp=1)"
prompt at 14 9 "put and get temp attributes(b)   tmpbak path dur
attrib"

prompt at 15 9 "get name of form on page n       gpage window
page"
prompt at 16 9 "get number of pages in window   gwindo window"

prompt at 17 9 "put cursor to field            putcur path"
prompt at 18 9 "window set(term within term)   oiscr path"

prompt at 19 9 "change attributes: foreground   putatt path
dur(prm=0,tmp=1) attrib"
prompt at 20 9 "get attributes: foreground     getatt path
dur(prm=0,tmp=1)"
prompt at 21 9 "put and get temp attributes(f)  tmpatt path dur
attrib"
```

create form morhelp

```
item i4
at 3 47
size 1
display as input
help arthlp2
prompt at left "More More Commands"
prompt at 2 28 "More Commands for ARTEST"
prompt at 4 10
"-----"

prompt at 5 9 "open logical device          opnldv returns
ldvid"
prompt at 6 9 "close logical device        clsldv
ldvid(except 'HOME')"
```

```
prompt at 7 9 "set logical device           setldv ldvid row
col width depth"
prompt at 8 9 "change logical device       chgldv
ldvid(default is 'HOME')"
prompt at 9 9 "inquire logical device      inqldv returns
ldvid"

prompt at 10 9 "put data to Virtual Terminal  putvti data"
prompt at 11 9 "get data from Virtual Terminal  getvti "
prompt at 12 9 "parse fully qualified name    parfqn
lev(0=1st,1=fst,-1=nxt21st,etc)"
prompt at 13 50 "use pf16(0) first"
prompt at 14 9 "get default qualified name    getdqn"
prompt at 15 9 "set default qualified name    setdqn path"
prompt at 16 9 "put message line string      pmsgls string"
prompt at 17 9 "put message line code       pmsglc code"
prompt at 18 9 "output a screen           outscr path"
prompt at 19 9 "put cursor at a location    putloc path row
column"
prompt at 20 9 "get the length of a buffer    gdatln path"

create form arthlp2
prompt at 2 28 "More Commands for ARTEST"
prompt at 3 10
"-----"
prompt at 5 9 "add an element to an array    addelm path"
prompt at 6 9 "open a form                 opnfrm form"
prompt at 8 10
"-----"
prompt at 9 23 "Special Function Key Definitions"
prompt at 10 10
"-----"
prompt at 11 20 "use pf16(0) to display path name of cursor
position"
prompt at 12 20 "use pf15(3) to send screen to printer (to call
'prntvt')"
prompt at 13 20 "use pf17(.) to refresh the screen (to call
'rfshvt')"

create form ff12
item i1
display as input
at 1 2
size 8 by 5

create form ff13
item i1
```

```
display as input
at 1 2
size 6 by 34

create form ff14
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
value "xxx"
size 3

create form ff15
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if 2 > 1
value "xxx"
size 3

create form ff16
item i1
display as input
at 1 2
size 3
```

```
item i2
display as output
at 2 2
value 'i1'
size 3
```

```
item i3
display as output
at 3 right of i1
appears if 2 < 1
value "xxx"
size 3
```

```
create form ff17
item i1
display as input
at 1 2
size 3
```

```
item i2
display as output
at 2 2
value 'i1'
size 3
```

```
item i3
display as output
at 3 right of i1
appears if 'i1' != 1
value "xxx"
size 3
```

```
create form ff18
item i1
display as input
at 1 2
size 3
```

```
item i2
display as output
at 2 2
value 'i1'
size 3
```

```
item i3
display as output
at 3 right of i1
```

```
appears if between('i1', 1, 10)
value "xxx"
size 3

create form ff19
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if in('i1', 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
value "xxx"
size 3

create form ff20
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if 'i1' > 10 ? 1 : 0
value "xxx"
size 3

create form ff21
item i1
display as input
at 1 2
size 3
```

```
item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if 'i1' > "CCC" ? 1 : 0
value "xxx"
size 3

create form ff22
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if NOT 'i1'
value "xxx"
size 3

create form ff23
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
```

```
at 3 right of i1
appears if IN(BETWEEN('i1', 1, 10), 1, 2, 3, 4)
value "xxx"
size 3

create form ff24
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if IN(BETWEEN('i1', "AAA", "CCC"), 1, 2, 3, 4)
value "xxx"
size 3

create form ff25
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if IN(BETWEEN('i1', "AAA", "CCC"), "AAA", "BBB", "CCC",
"DDD")
value "xxx"
size 3

create form ff26
item i1
display as input
```

```
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if NOT APPEARS('i1')
value "xxx"
size 3

create form ff27
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if APPEARS('i1')
value "xxx"
size 3

create form ff28
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3
```

```
item i3
display as output
at 3 right of i1
appears if APPEARS('ff24.i1')
value "xxx"
size 3

create form ff29
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if 'i1' >= 1 ? 'i1' = 5 ? 1 : 0 : 1
value "xxx"
size 3

create form ff30
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if NOT IN('i1' >= 1 ? 'i1' = 5 ? 1 : 0 : 1, 1, 2, 3)
value "xxx"
size 3

create form ff31
item i1
```

```
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if 'i1' <= 0 OR 'i1' >= 10
value "xxx"
size 3

create form ff32
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if 'i1' != 11 AND 'i1' >= 10
value "xxx"
size 3

create form ff33
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3
```

```
item i3
display as output
at 3 right of i1
appears if GWINDO('.w3') > 1
value "xxx"
size 3

create form ff34
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if CURSOR('i2')
value "xxx"
size 3

create form ff35
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if gpage('.w3', 1) = "FF3"
value "xxx"
size 3

create form ff36
```

```
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if getatt('i1', 0) != "INPUT"
value "xxx"
size 3

create form ff37
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if not getatt('i1', 0) != "INPUT"
value "xxx"
size 3

create form ff38
prompt at 1 4 "ff38"

item i1
display as input
at 2 2
size 3

item i2
display as output
```

```
at 2 6
value 'i1'
size 3

form f1
at 4 2
appears if 'i1' > 10 ? 1 : 0
size 7 by 6

create form f1
prompt at 1 2 "F1"

create form ff39
item i1
display as input
at 1 2
size 3

item i2
display as output
at 2 2
value 'i1'
size 3

item i3
display as output
at 3 right of i1
appears if not role("manager")
value "xxx"
size 3
```